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THE COTTAGE GARDENER,

AND

COUNTRY GENTLEMAN'S COMPANION.

A JOURNAL OF HORTICULTURE, RURAL AND DOMESTIC ECONOMY, BOTANY,
AND NATURAL HISTORY.

CONDUCTED BY

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TO OUR READERS.

HEALTHY Periodicals, like good wine, require some years to ripen them. They go on from year to year improving—acquiring more spirit—more strength—get more character—are more relished—sell better—and pay better. Now, this is precisely the case with THE COTTAGE GARDENER, and we may carry the simile still further, and claim to be likened to any Vineyard of good mark. When its wine first comes to the merchant it has to gain a name—the manager of the wine-press has to gain experience—to ascertain the taste of the consumers—and to find the favoured *crus*, or spot, in his Vineyard that yields the most approved liquor. So was it with ourselves; and as our Vintage of 1856 was more approved than that of 1853, and as that was more commended than the first Vintage of 1849, so we shall be much deceived if the Vintage of 1857 is not superior to any of its predecessors. And so it ought to be; for all the *old* Vines are healthy; *new* ones are coming into bearing; there is no mildew upon any of their leaves; there is every promise of an excellent, well-ripened crop, and the wine will have that *bouquet* which has always rendered it pleasant for immediate use, yet of such good body that it is suitable for storing.

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
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WEEKLY CALENDAR.

D M	D W	APRIL 1-7, 1856.	WEATHER NEAR LONDON IN 1855.					Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.							
1	TU	Elater obscurus.	30.382-30.221	48-22	N.E.	—	36 a 5	32 a 6	4 m 37	26	3 51	92	
2	W	Opilus mollis.	30.173-29.967	46-27	S.E.	02	34	33	4 55	27	3 33	93	
3	TH	Necrophagus vestigator.	29.723-29.566	51-39	S.	08	32	35	5 11	28	3 15	94	
4	F	Silpha obscura.	29.868-29.723	51-23	N.E.	06	30	36	5 26	29	2 57	95	
5	S	Silpha tristis.	30.051-30.013	57-33	W.	—	28	38	sets.		2 39	96	
6	SUN	2 SUNDAY AFTER EASTER.	30.135-30.119	64-40	N.W.	—	25	40	8 a 50	1	2 22	97	
7	M	Cholera oblonga.	30.120-29.994	60-32	N.W.	01	23	41	10 21	2	2 5	98	

METEOLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 56.2°, and 35.9°, respectively. The greatest heat, 78°, occurred on the 3rd, in 1848; and the lowest cold, 16°, on the 1st, in 1838. During the period 112 days were fine, and on 84 rain fell.

WHOEVER becomes a Crusader, whether against the profaners of the Holy Sepulchre, the invaders of the Turkish Empire, the owners of Rotten Boroughs, or even against the mismanagers of a Horticultural Society, is sure to gather no satisfaction to himself, and much disappointment to those who looked to him as the champion of their opinions.

The Committee recently appointed to suggest corrections of abuses, and better courses for the future, to the Royal Horticultural Society, is no exception to that general result of experience to which we have referred. Their Report is unsatisfactory to themselves, and it has disappointed those who are anxious for better days to the Society.

We are quite aware that the disappointment, as in most cases, arises because too much was expected; and from that proneness of human nature to hope for vast results from the possibilities of the future. But the disappointment in the present instance has some justification, in the fact that the Committee were very divided in opinion, and that many important changes were lost by very small majorities. We think that all this should be fully and fairly published; and that every amendment brought to a vote should be stated, with the names of those who voted for and against the amendment. We so think, and so wish, because the existence of a Society capable of so much benefit to our national gardening is at stake, and because it is as certain ruin will come upon that Society if larger changes are not effected in its management, as it is that that ruin is now overhanging it.

Mr. Bohn was prevented by illness attending the Committee's meetings, during the last weeks of its existence, and how much he disapproved of its determinations is told in this letter to its Chairman, Mr. Godson; a copy of which letter Mr. Bohn sent to Dr. Lindley:—

"NORTH END HOUSE, TWICKENHAM,
"March 10th, 1856.

"MY DEAR SIR,—Our Report, as now printed, has altered its character so much since you and I first laid our heads together to consider how the gardens could be saved, that I scarcely recognise it. As it has been so difficult for nine to agree what is best to be done in the dilemma, it is manifest that Dr. Lindley must have had a troublesome task of it to please all classes. The nurserymen want experimental gardening to be pursued with more energy, to keep on the seed collecting with its great and comparatively unprofitable expenditure, to substitute one management for another *at quite as large a cost*, and to maintain without diminution all the present expenses. This is simply impossible in our

present reduced circumstances and in the face of active counter attractions, unless the public, in perfect reliance on future management, come forward with a large subscription.

"My views are, and always have been, that the gardens must, as far as possible, be made self-supporting; in the first place, by every possible diminution of expense; and, in the second, by abolishing all privileges which interfere with the sale of the garden produce. I think that if the gardens were delegated to some practical superintendant, who should have the power to sell every thing and produce any thing he might please for sale, so that he does not interfere with the general beauty and efficiency of the gardens, we shall pretty nearly arrive at this object. The four guinea subscribers should have the privilege of purchasing whatever the gardens afford at something like half the market price. I admit, this is approaching the character of a nursery, but not more so than has taken place in selling the trees from Elvaston Park, or is customary on estates where butter, cheese, milk, and cattle, are sold. In these utilitarian days the public will not waste a large expenditure in the aristocratic notion of doing things in a princely manner. The gardens must, in some way or other, be nearly self-supporting, and we must be helped over our present difficulties by a subscription from the encouragers of horticulture. Without these two main ingredients, I see little use for legislation of any kind. I think my plan of a transferable ivory ticket might give an impetus, when it is plainly seen that there is a prospect of our continuance, otherwise Dr. Lindley's plan of London exhibitions and lectures is better than anything proposed in the Report; and though the Society, so altered, would be very likely to dwindle away after a season or two, yet it seems to be our only alternative. I perceive that you have studiously avoided saying anything about the days of exhibition. These ought to be, as they have been for half-a-century, Saturdays; and I look upon the changes made last year in substituting Wednesdays, and then going to those vulgar gardens at Gore House, as being the great cause of our headlong decline. Dr. Lindley was, I believe, controlled in this by the Council: if so, the voters for the change are responsible for the consequences. We know some of the allegations which were put forward; but they are so feeble as to be not worth answering.

"I have fought hard in the Committee for two Exhibitions, feeling that the public *fêtes* have always been the great attraction of the Gardens; but I begin to fear, that after all this procrastination, we shall hardly be able to get up one; but one we must have, and that in the beginning of June, if our connection with the Gardens is to exist any longer. I do not see why we should not have a second, consisting mainly of music and voluntary exhibitions. The gay public care a great deal less for the science of an Exhibition than they do for the conventionality which brings them together, on a fine day, to see and to be seen.

"There is one other matter which comes to my mind, that ought, perhaps, to have been dwelt on in the preliminary part of your Report. The Gardens, as they now stand, have been valued, as though to an in-coming tenant, at £17,000; but any eye that is accustomed to laying out grounds must see that the plants must have cost £40,000. Would it not be discreditable to the age to surrender all this for something like a deficiency of £4000 or £5000; for the house and library in Regent Street will most assuredly discharge all our liabilities excepting this amount?

"I write this from a sick bed, and must leave you to make the best of my views, as you have asked them.

"Yours, &c.,

"H. G. BOHN."

BOYD'S VULCAN SCYTHE.—We can give unqualified praise to this implement. It is cheap, readily fitted to the handle by the gardener himself, without the aid of a blacksmith, and the quality of the blade is very superior. We have just seen one employed, and the man using it said—"It's the best piece of steel I ever used."

VENTILATION.

I do not think there is any gardening practice of equal importance that is so loosely dealt with; I do not, of course, mean among first-rate gardeners. It is commonly termed "giving air;" but I would ask, does this of necessity signify the same in all cases as ventilating? We all know, that by pushing down the sashes of a cucumber or other frame an inch or two at the back, an interchange of the warm and cold air instantly commences; but I am of opinion that it takes longer to change the whole volume by such means than people commonly imagine. It must not, however, be supposed that I am about to advise keen currents of air, on all occasions, both back and front; nothing of the kind, but merely to cause, if possible, a reconsideration of the question;—a course frequently necessary in gardening affairs.

The various habits of trees, or plants, the various phases they pass through during the year, together with the ever-varying character of the season, of course convey the idea, even to the uninformed, that not even ventilation can be made to assume an unvaried course; and that, consequently, there is much room for practical observation.

We will select one fruit tree for a remark or two, as to ventilation—the *Vine*. For instance, what fruit has a greater aversion to cold currents of air than the *Vine* during the early swelling process? yet what practical man will advise their being kept in such a coddled condition when the stoning is ended, and the colouring and flavouring process has to be carried out? Here, then, is surely a case in point: a fruit tree which, at two distinct periods, at least, requires two as distinct modes of ventilation, or air-giving; the one recognising the propriety of lively or smart currents, the other, an exceedingly quiet interchange without perceptible action. Whatever the arguments may be for this practice, I may, to save space, merely observe, that most of our best gardeners fall in with it.

But, indeed, not only *Vines*, but most other sorts have their periods when some modification of air-giving is requisite; and this shows that the subject deserves the most careful consideration. A moment's solid reflection would surely convince those who are not practical gardeners, that it is not by adopting just one idea about air-giving, and applying it in all weathers, that we may hope for the highest amount of success; but rather in studying the habits of fruit-bearing trees, under a concurrence of favourable circumstances, in their native haunts.

Here it may be seen, if my arguments carry any real weight, that when we take into consideration the present position of our forcing-houses, pits, frames, &c., in conjunction, we shall find, in general, no thoroughly recognised system; the any-how plan suits. One man pushes down the glass of his pit, or frame, or lets down a back light or two of his *Vinery*, and thereby "gives

air." A second likes to "tilt" them, as it is termed, whether it be by a brick-bat or certain iron machinery. But hero to stay for a moment; if there be any principle in such procedures, how few can tilt up the back lights of their *Vinery* by such practice.

Again, let us turn for a moment to the common garden frame. Now, garden lights are, by common consent, either pushed down or tilted at back: this is always called "giving air;" and, verily, the title is time hallowed. I appeal, then, to all conversant with sound gardening, whether all these varying practices be strictly identical, or whether it is immaterial which way a thing is done?

I have often wondered why it is that frames and pits have not front ventilators always provided in them. I am aware it will be said that we can pull up lights, or sashes, as well as push them down; this is not, however, always convenient. Such practice answers well enough in summer, when the weather is safe; but seldom answers in winter and early spring for delicate things. And, indeed, why be compelled to pull up lights, when a safe course of ventilation is so easily provided?

The ready displacement of confined damps in pits, or frames, to say little about houses, is a thing, as all gardeners know, of immense importance in gardening. Pines in dung-heated pits, flowers forced early in such structures, and many of your half-hardy bedding things, as *Verbenas*, *Calceolarias*, *Geraniums*, &c., are apt to suffer much during winter by confined damps; and many a time have we seen them in a sad state, albeit the lights had been pushed down or tilted on every occasion. A proper course of ventilation, however, would effect more in half-a-dozen hours, under a lively condition of atmosphere, than a whole week of the other mode.

With regard to forcing-houses, the difference between morning and afternoon should be taken into consideration. Of course, where people do not ventilate all night, the inmates of forcing-houses may very naturally be supposed to have acquired a degree of tenderness. Such being the case, it becomes us to be cautious, and the propriety of giving air at the back for an hour or two at once suggests itself. But this accomplished, I think the importance of real ventilation, that is to say, air from front as well as back, may be readily seen. All this proceeds on the assumption, that forcing structures require daily ventilation.

There are, however, numerous cases, as in *Orchid* culture, propagation matters, &c., in which the dispersion of air-moisture has to be avoided: such I own to be exceptions to the plans here suggested. For fruits, however, the propriety of a free circulation of air is obvious; few will doubt that high flavour and a handsome appearance are mainly owing to a free exposure to light and air. One thing I may observe, before concluding these remarks, that early closing-in of sun heat being a universally recognised maxim in forcing, it becomes imperative on all concerned to ventilate as early as possible. Indeed, the only time houses, in general, should be closed is from about four to seven P.M.

R. ERRINGTON.

BEDDING GERANIUMS.

IN a letter just received from one of our first-rate gardeners, he says, "I grow *Mangle's Variegated* and all the *Ivy-leaved* kinds by the thousands; the *Scarlet Ivy-leaved*, which was sent out by the Messrs. Standish and Noble, comes pink sometimes, but is pretty constant, and worth having. I have not seen you notice it." About eighteen months back, another first-rate gardener asked in his letter, "How comes it, that you, for

whom we claim consanguinity with old Argus himself, should have missed Standish's *Scarlet Ivy-leaf*?"

It may be as well to state the truth about this matter at once, and that is, that public writers are all but agreed that the public themselves are never sufficiently wide-awake; and, therefore, if you want to press any subject on public notice you must advertise it over and over, again and again; and here is a practical illustration to the point. The Messrs. Standish and Noble advertised the *Scarlet Ivy-leaf Geranium* so industriously as to saturate the public mind, as it were; whilst I, who had only occasion to mention it twice, although I spoke of it far more highly than ever they did, made no impression even on the minds of our very best gardeners, who are constantly on the look out, Argus-eyed, for all novelties for the flower-beds. Now, turn to page 290, of the 8th Vol. of *THE COTTAGE GARDENER*,—the volume for the summer of 1852,—and read that "it was exhibited that summer at Chiswick, and at the Regent's Park,"—that I thought it "for some gardens, the best of the season;" and, farther, on the same page, that "I could not hear to whom the *New Scarlet Ivy-leaf* belonged; but having seen it twice, there can be no mistake about it. It must be the most valuable seedling, or sport, for the terrace and geometric flower-garden that has been got these ten years;"—that is, in the section of *Ivy-leaves*. For we can never compare one *Geranium* with another from a different strain; but "Fortune favours the brave;" and having been fortunate in that estimate of this *Geranium*, I shall now hazard a prediction on it.

No one, in the United Kingdom, shall be able to raise a better seedling than this, in the same section, for the next ten years to come, unless the writer chooses to enter the lists!

When I wrote my estimate of the *Scarlet Ivy-leaf*, in 1852, I was as confident that it was not a seedling as I am at the present moment; but if I had so written, I should have injured the sale to no good purpose; and as the advertisers, like our great gardeners, over-looked my description, I held my tongue and my pen free from it for the same reason.

A good sport is just as good as a good seedling, and it may happen to be better than the best seedling of its class; but the public do not understand so much as that about novelties, and would rather pay more for a bad seedling than for a good sport. "A most valuable seedling, or sport," would please both the public and the writer; they, for being put on the wrong scent, as to the origin of a really good bedding plant,—and he, who ought to know better, thus insured the credit of the cloth by merely surmising the probability of a sport.

That all may be as wise as the rest, some day or other, as far as seedlings and natural sports, or variations from a natural type, are in question, I have undertaken an experimental garden at last, which will hold 2,000 *Geraniums*, and a proportionate number of all other bedding-plants to begin with. Here I shall go over all those hints, suggestions, and general rules, which have appeared, from time to time, in these pages, on the subject of crossing and constraining crosses to sport; and, in addition, I shall have an opportunity of proving any new seedlings which may be sent to me for an impartial judgment; but I shall not undertake to raise seedlings, except of my own saving; and every seedling must be of a flowering age before I can take to it for experiments. As all this is only for my own amusement, and for the good of others, I cannot afford to be out of pocket by it; neither do I anticipate a single farthing to balance the account for or against me. I merely say, that I shall be much obliged to all who will assist me to make up a collection to start with,—that as I have no pretension to the character of a florist, his class of flowers would be only lost upon me.

Verbenas and *Fuchsias* we both claim and make use

of; but, being on the strongest side, I can dispense with both of them; yet, when a *real blue*, or a *yellow Verbena* seedling appears, I should like to have the judging of it in reference to the flower-beds. A hundred, or a hundred and fifty baskets, or parcels, of plants in one season might cost me from twelve to twenty pounds in carriage, which would be paying dear for one's whistle, whereas, so many pence would suffice for private individuals. A couple of shillings would cover, or ought to cover, the expense of forty or fifty bedding *Geraniums* in carriage over 200 miles of rail, if the plants were shook out of the earth, and the roots packed in a ball of damp moss, and their roots and top to be packed in one page of the *Times*, or any other newspaper of equal size. If you pack the bare roots of each *Geranium* in a ball of *wet moss*, as big as a cricket ball, then envelope *the ball only* in a *faded Rhubarb-leaf*, without a stalk, and put the whole plant and ball in three or four folds of a newspaper, tying top and bottom tight, I undertake to send 100 such packed *Geraniums*, in the months of April and May, in a strong wooden case, either to New York or Constantinople, by steamer, and I shall forfeit my claims to the experimental garden if every one of them does not arrive in the far east, or far west, as fresh as larks. So that if you should consider me daft, and the experimental garden a mad scheme, you have learned a secret between us which is known to very small number of your fellow subjects; but by that simple way of packing I have had *Geraniums* on the way for three weeks, which were as fresh as the day they were packed. In less time, however, we can now send and receive plants to and from all places in the kingdom with very little risk. Any thing addressed to me at "*Surbiton, near London*," or "*near Kingston-on-Thames*," will reach me as regular as the post.

In my next letter I shall name all the bedding *Geraniums* that are mentioned in *THE COTTAGE GARDENER*, or other books; how I mean to use them; what other modes of arranging them in beds, different from the usual way, which have occurred to me, or have been suggested by others, since I left off growing them on a larger scale, and so on with most other bedding-plants; so that, although you may take no interest in my experimental garden, you will be very much accommodated by having all those lists collected into one place, or number, for ready reference, besides the chances of seeing something worth imitation in the various distributions of them, which I shall suggest and put in practice if I am well supported. Meantime, as my present stock is more curious than useful, and is little calculated for a grand display, the experimental garden is fresh and open for whatever comes first to hand.

Last year I mentioned a new *Petunia*, at one of the shows, which struck me would supplant my own seedling, the *Shrubland Rose*, but that is to be proved, and I should like to have a finger in the pie. It was exhibited at Chiswick by Mr. Westwood, of Acton, but I forget if I heard the name of it. I mentioned another magnificent new *purple* seedling *Petunia*, last year, from Mr. Walton's garden, of which I long to see a bed. It was raised by Mr. Jackson, of Kingston, and I can have any plant he has for asking. The name is *Lady Alice Peel*; it is, unquestionably, the best pot *Petunia* we have. Mr. Walton's old plant is now a real beauty, showing flower. I do not know a better *White Petunia* than the *Shrubland White*, as it was called by the gardeners at Kew, and *Royal White* at the Crystal Palace. Any other white, or purple, or Rose *Petunia*, will be welcomed for my new undertaking; but all fancy shades are not to my taste at all for beds, therefore, my prejudice might tell against them, and I would rather have nothing to do with them; but every shade in the seedlings of *Delphinium sinense* I could manage to put in their proper places, after once seeing them in bloom together; and I

might say the same about *China Asters*. They must have various names, but I do not know them sufficiently to be able to plant a bed of mixed sorts, unless they were in bloom at the time, and I hardly know of whom to ask advice, for of all the annuals most people manage to make the least effective show with them. But what need of further examples, when there is hardly a family of bedding plants on which some alteration or improvement might not be made in some way or other.

I met a gentleman at the meetings of the Horticultural Society, who is, perhaps, the most scientific cross-breeder we have; from him I took fresh courage, as well as my ideas about the experimental garden. If I were at liberty to mention his name, I should put him down as the most likely person of our times to raise the better seedling than the *Scarlet Ivy-leaf* within the next ten years. He has obtained a cross already which baffled me, and many more of us, out and out—the *White Unique* Geranium has seeded with him by the pollen of the old *Purple Unique*, and the seedlings are up, therefore there is no doubt about the cross. I set my heart upon that cross many years ago. I was the only gardener who possessed the *White Unique* at that time. It was an old kind, which was picked up for me in a cottage window, and I named it, but kept it in my own hands till I made sure that no art of man could force a cross from it. I then sent it to London, to Mr. Henderson, of Pine Apple Place, not as a good bedder, however, but to see if some one else would have better luck with it, such luck as I suggested for the *Shrubland Pet*, which is of the same strain, yet little suspecting that I should ever hear of a son and heir to the Unique dynasty in that quarter; but so it is, and if so, why should I not “face about,” and get among such impracticables once more in earnest, when I have more time to attend to genealogies and descents of all questionable and unquestionable strains? Hence the origin and progress of the experimental garden.

CUTTINGS.

There are two sizes of all the smaller pots—both below 21's—the large 60's and the small 48's—which are the only two kinds of pots which I recommend to amateurs and all new beginners, for their cuttings; the 48's for *Calceolarias*, spring *Geraniums*, and *Verbenas*, and the 60's for all others. Then, to make sure work of it, I tell them not to put in more cuttings than one row round the sides, and quite close to the pot; but here I overlooked, or, rather, I never knew, a difficulty which was pointed out to me the other day, as arising from this mode of inserting the cuttings. It is not every one who can take up, or lay down, a full cutting pot like a gardener; and you may guess a man's practice from the way he will handle his pots, just as you would know a yeoman of the pantry by the manner he handles his glasses, or a groom, or a tar, from the swing of his gait. An amateur will take hold of a full pot invariably by placing his thumb over the rim, and in doing that he cannot help crushing any cuttings in that spot. Therefore, until he learns to take it out of the plunging material by taking hold of it a little lower than the rim, between the thumb and middle finger of the right hand, then change it to the palm of the left one, we must contrive to save him and the cuttings, by leaving a gap in the ring of the cuttings sufficient for the size of the thumb—a thumb gap. 70° is the lowest that the glass should indicate in the morning, for the next six weeks; earlier in the season 60° would do, but time is pressing, the season has been most unfavourable all along for forcing of all kinds—hardly any better than November weather to this very day (26th March), and much business is to be got through yet in the propagating department. If the air is kept moist, but not so much so as to damp leaves, cuttings will stand enormous heat. I have had them by the thou-

sands up to as near to 90° as I could keep them for the whole month of April, and I hold a direct contrary opinion to many of the best gardeners on this point; but we reason on this point from opposite principles. I hold it to be true philosophy, that it is not the amount of heat you give to a cutting which weakens the constitution of the future plant, but the length of time which you keep it in more heat than is natural to the parent plant.

POTS.

If any man, with a flower-garden at his back, has more pots just now, and more pot room than he knows how to fill, depend upon it he will never die of love or from a broken heart; thousands make a thousand shifts at this season, the best of which is making a bed four inches deep, in a cold or half-warm frame or pit, of leaf-mould and light sandy earth, and shake out store pots of *Calceolarias*, *Verbenas*, *Geraniums*, and plant the contents across the beds in rows, and water them once or twice a week; the same with struck cuttings.

D. BEATON.

THE ANEMONE.

If a short definition were required of what constitutes a florists' flower, the answer might be—the increase in size, the improvement in appearance and form, and the multiplication of the floral parts under cultural care. Take, for instance, the common *Viola tricolor*, and a large, first-rate Heartsease; or a gaudy, single Dahlia of 1820, as contrasted with a first-rate double flower of 1855, and the power of the florist is at once perceptible. On the score of superiority in beauty alone, most people would place what is called the double Anemone among the most attractive of florists' flowers; while, I dare say, I should not want companions if I gave preference, as respects beauty, to fine-coloured, well-formed single flowers. Perhaps such a taste may be owing to being an admirer of these family harbingers of spring, from the *A. nemorosa* that carpets the open glades of the woods, and the violet *A. pulsatilla* that delights on our chalky uplands, to those more showy denizens of the *parterre* and the border, the offspring of *A. coronaria* and *pratensis*, the latter coming to us from the sunny skies of Italy, and the former from the Levant. In those eastern countries, so full of the associations of the past, so replete with anxieties for the present and the future, I have been told that the *coronaria*, the Poppy Anemone, grows as freely on exposed rising grounds as the wood Anemone does with us; and an idea was sought to be conveyed, that owing to its extreme hardiness, much of the care of the florist might be spared, as to taking up, resting, &c. I have never heard, however, that these wild flowers equalled in beauty those that were the result of the florists' skill. It would be a backward idea to suppose that art was to be employed in imitating natural productions instead of improving them; while, even in the present instance, it will be perceived that skill and the prompting of nature join hand in hand; the culture generally followed being such, in our variable climate, as would yield conditions to the plants similar to what they would have enjoyed in climates more regular, where heat and cold, dryness and moisture, the “early and latter rain,” could be somewhat clearly predicated.

PROPAGATION is effected by *dividing the roots*, after they have been taken up in May and June, for increasing old favourite varieties, and *by seeds* for obtaining new kinds; collecting seeds as fast as they ripen from the best single and semidouble flowers. For scarce kinds, the tuber may be divided into as many pieces as there are eyes, or buds; but if much divided, they will bloom weak the following year. In handling the roots when cleaned and dried, care must be taken not to break

them unnecessarily, as they are very brittle. The smallest pieces containing a bud should be saved, as they will bloom in a second year. By dividing the roots shortly after they are taken up the wounds are healed and hardened before planting time. As soon as the foliage withers all the best kinds should be raised. I have seen such hardy kinds as the *Scarlet Turban* left in the ground for years, but they deteriorate in the process. Even the best single varieties, though living many years in a dry, sandy loam, maintain their vigour better when raised as the foliage decays, and kept at rest during the hot summer months.

SITUATION AND SOIL.—The name of Wind-flower (from *anemos*, the wind), tells us that the situation should be exposed and dry. Low, damp places, and stiff soils retentive of moisture, are alike their aversion and bane. A light, loamy, dry-bottomed soil, and moderately enriched with organic matter thoroughly decomposed, being secured, there is no occasion to ransack fields or brains for a suitable compost. A light, loamy border, that would grow early Potatoes in perfection, would not be disliked by the Anemone. Where the position is naturally wet, it must be made dry by drainage, and the beds may be left more elevated. If the soil should be very sandy, add loam to give it more consistence. If too stiff, add sandy loam, or remove it, and fill in with suitable soil. If too poor, add thoroughly-rotted leaf-mould. No manure, at all rank, should be within fifteen inches of the roots. In making up a new bed, cow-dung, a year old, three inches thick, may be placed from fifteen to eighteen inches from the surface. All plants like fresh soil; and, where it is necessary to make a bed, sandy loam from a pasture, or the highway-side, turned frequently over for a twelvemonth, and incorporated with a fourth part of leaf-mould, will answer admirably, with a layer of cow-dung at the depth specified. As above remarked, however, free-working, dry, moderately rich kitchen or flower-garden soil will grow the Anemone to perfection, if the bed be changed every year.

TIME OF PLANTING.—The last week in September and the first and second week in October may be considered the best time for the general crop of double Anemones, as the flowers are generally finer and the roots stronger than when planted earlier or later. These will come into bloom by the middle and end of April. As they will be above the ground before the frost comes, they will want little or nothing in the way of protection in winter. Another bed, planted in the middle of November, would come into bloom a fortnight later, but they will demand more care; as wet and frosty weather may quickly succeed each other after planting; and in such circumstances, the tubers, when surcharged with moisture, and not vegetated, are apt to be injured by frost and mouldiness; so that the beds would require to be protected from frost until the foliage appeared, but uncovered always as soon as the frost was gone. A third planting may take place in the middle of February or the beginning of March, which would prolong the blooming season well on to July; and for this planting, as exposed to fewer casualties, I would reserve tit-bits of great favourites until they gained strength.

IN THE CASE OF SINGLE ANEMONES, for beds and borders, they may be planted monthly, from the beginning of September to the beginning of April; and, if the winter is mild, flowers may be culled from January to August.

MODE OF PLANTING.—This matters little, provided the soil is well worked and aired, and in a nice, dry condition, and so regularly consolidated that it will not sink unequally, and provided the roots are not covered more than from one-and-a-half to two inches in depth. The bed form is the most useful, and three-and-a-half-feet wide is very handy for attending to the plants, covering, &c. In a series of beds the alleys should be eighteen

inches or two feet wide, to admit of plenty of room. The beds should be elevated two or three inches above the alley—more, if there is the least danger of stagnant moisture. If the beds are edged with slates, or tiles, or boards let into the ground, it will add to the neatness, and keep the outside of the beds more uniform as respects moisture. In the absence of these, when the bed is planted the outsides should be made up level, rather firmly patted down, and then cut off straight with a line and spade, keeping a stiff wrist, so as to bent the side firmly while cutting it. In such a bed, three-and-a-half feet wide, after allowing about six inches on each side, you will have six or seven rows, accordingly as you place them, six or five inches apart. If drills are drawn two inches deep, and the roots placed five inches apart in the row, the fine earth levelled over them, and the bed neatly raked, the work is done. By this drill system, I have seen the covering very irregular when done by unpracticed hands, and the plants suffered in consequence. The following is the plan adopted in my apprentice days, and which I would recommend to beginners with their first Anemone bed:—When the bed is in a finely-pulverised state lift off about two inches in depth of the surface soil, and lay it down in little heaps in the alleys. Level the bed again, rake it, and slightly pat it to make it smooth. Then leave marks for the longitudinal rows, five inches apart, by pressing or drawing the rod, or lino, along the bed. Proceed in the same manner across the bed, and you will leave a chess-board-like bed, cut up into squares of five inches. In the angles place the tubers, with a pinch of sand around them. By this mode it is best to plant across for named kinds, beginning at the nearest end, and placing the tally before the root, or roots, until all are inserted, seeing that they all read and proceed from the same side. For instance, you have angles across for six tubers, but you have only five of the sort you commenced with, and only four of the next you intend planting. We will place the five, and then insert the tally for No. 2, and place one tuber to fill out the row; come back to the next row, and place the other three without any tally, and thus there can be no mistake. I have had endless trouble with men who sometimes would put a tally in when they commenced a row, and putting it in at another time when they finished a kind. Nurserymen get into all sorts of scrapes and confusion by such waywardness. The mode of placing tallies ought to be fixed as unalterably as the laws of the Medes and Persians. When all are placed, take six little pins, or twigs, place one at each of the four corners of the bed, and two on the opposite sides in the middle. Leave these above ground two inches in height. Place the earth taken off gently on to the height of the pins, pat gently, then rake, cut the sides of the bed, and the work is done in less time than I have described it in.

GENERAL TREATMENT.—I have said those planted in November might want protection; those planted early will need none until the flower-stems begin to show. Then, if no more convenient mode exists, the beds must be hooped, or arched, and protected with mats, or oil-cloth, to keep off hard frost and heavy rains. Before that period, and also then, the plants will be benefited by having the soil firmed round them by the hand. Any hollows, thus caused, may be supplied with fresh loam, containing a good portion of rotten leaf-mould, or exhausted hotbed manure, as a top-dressing, and which will also prevent cracks in hot, dry weather. When in bloom, in April and May, the same covering must be given in wet and very windy weather, leaving, however, free admission of air. In dry weather, frequent waterings will be wanted as the flowers approach maturity. As soon as the foliage begins to decay, the drier the bed is kept the better. When the foliage is yellow the roots should be carefully raised. If there are many kinds in a bed,

it will not be prudent to wait until they are all ripe alike, but lift them as they wither. Those that wither slowly had better have the covering to keep off the wet, or they would begin to shoot again, which would cause them to come weaker. When raised, allow the foliage to remain and what earth adheres, and place them in an airy, shady, dry place. When dry, remove the foliage that adheres, and as much of the soil as parts from the fibres. In a week or two handle them again, removing the earth and most of the fibres, and dividing the roots, and in another week they may be put in bags, and kept dry until planting time, when the part that shows the mark of the fibres must be placed downwards. They should be looked over to see that mould is not interfering with them.

SOWING SEED.—When the object is to get new varieties of double florists' flowers, seed should be saved only from those with a double row of petals, or from single ones of the good; and then, a few double ones among the seedlings must be considered a good bit. The seed must be looked after every day as soon as it ripens, or it will blow away. Before sowing, it wants to be well mixed and rubbed among sand to separate it sufficiently. What has been said of suitable soil and forming a bed, applies equally to a seed-bed, or border, but the soil should be finer, and no rank manure within eighteen inches of the surface. The seed may either be sown broadcast or in rows; but, in either case, thinly, to allow the young plants room; and the covering should not exceed from one-eighth to a quarter-of-an-inch. The most natural time for sowing would be as soon as ripe,—say, towards the end of May and the beginning of June. If shaded a little it will soon appear; and a little fine, sandy loam and charcoal dust sprinkled among them would encourage growth and keep enemies at a distance. The seedlings will keep growing until the cold weather sets in, and many will bloom in April, which should be tested, and removed afterwards, to give room to the smaller ones, which will bloom later. I have sown under the protection of a glass light in February and March, and many of them have bloomed in autumn. Those sown in the open air, in April and May, bloomed still later. As a decoration of the flower border, the single flowers thus produced are very ornamental; and I hope this notice will induce the sowing of many a packet of seed this season. When intended to be kept, the seed should be placed in a box in a dry place.

POT CULTURE AND FORCING.—Anemones do very well in pots of good depth, and filled with rich, sandy loam, but in which the loam approaches the adhesive. If kept protected in a cold pit in winter, after being potted in September, they would come in as ornaments of the window early in spring. The Turban varieties are the best for this purpose. They will stand very little forcing, but by the above treatment, and not giving them more than 45° to 48° of artificial heat, pots and boxes may be had in the greenhouse in February. I once had a couple of boxes—such as are used for *Mignonette*—planted with bright single ones, and in the front of a greenhouse they presented a very gay appearance in January.

DISEASES, &c.—In wet seasons, and on wet ground, the foliage is liable to the mildew. The best remedy is dusting the foliage with soot and sulphur, and top-dressing the bed with dry material, of which charcoal-dust forms an item. The leaves, also, at times become swollen, distorted, and succulent, the result of either too deep planting, too moist a situation, too rank manure within reach of the roots, or the roots being allowed to remain several seasons in the same place.

CHARACTERISTICS OF A GOOD FLOWER.—What is called a double flower, consists of an exterior row of flat, well-formed petals, just recurved enough to form the appearance of a shallow saucer, and half the diameter should

consist of coloured florets, in a rounded form, each pointing to the edge of the flower. Whether the colours are the same, or contrasted, they must be clear and distinct. We shall obtain a true double flower when those that frequently appear with two or three petals increase these petals, and imbricate over each other, so as to resemble a fine *Ranunculus*.

In a single *Anemone* the flower-stem should be stiff; the petals thick, broad, and smooth at the edges, forming together a shallow, round vessel of some two-and-a-half inches in diameter; the colours clear and distinct; and if there is a clear circle round the parts of fructification at the base of the centre, the beauty of the flower will be augmented.

R. FISH.

SHEFFIELD BOTANICAL GARDENS.

A FEW days ago I had the pleasure of visiting these beautiful gardens. I saw so many plants in flower, and otherwise well grown, that I returned the day after, and took notes.

In 1832, I walked over the ground now occupied by these gardens. It was then in fields, some distanced from any dwellings, a mere milk farm, with a small patch of wood at the north-west corner. A few spirited gentlemen met together, passed a resolution that it was desirable to form a garden for scientific purposes, and for the instruction and recreation of the inhabitants of Sheffield and its vicinity. A committee was appointed, subscriptions obtained, the ground (eighteen acres) purchased. Then plans advertised for, and a curator also. Mr. Marnock, after a close election, received both the award for the plan and the curatorship. The gardens and the noble range of bothouses were laid out and built with extraordinary rapidity, and on the 29th of June, 1836, this delightful place of recreation was opened to the subscribers and the public. It cost the original proprietors upwards of £18,000, of which £3,600 was paid for the land. The shares were originally £20; but, from some cause or other, the original shareholders gave up and sold the concern, in May, 1844, to a new company of proprietors, who purchased it for £9,000, raised in £5 shares. A yearly subscription of 10s. 6d. is paid on each share for the admission of the bearer and his family. The gardens are open to them daily, from morning to night, and on Sundays from one, p.m., till dusk. The present curator is Mr. John Law. He has greatly improved the gardens since he was appointed. The Society were £3,000 in debt; this he and the committee of management have entirely paid off, so that the Sheffield Gardens are in the proud position of not only being out of debt, but in having a considerable superabundance of income above the amount of cost. This surplus the committee have wisely placed under the controul of Mr. Law to lay out in improvements, and thus increase the attraction of the gardens. Four or five years ago, a large house was erected at the west end of the range to grow aquatics, especially that queen of the water, the *Victoria Lily*. To correspond with that, in the autumn of last year, there has been erected, at the east end, a house of the same size to grow *Camellias* and *Azaleas*. Thus increased at each end, the entire length of the range is 400 feet, averaging nearly forty feet in width.

In the centre is a lofty domed house, in which the Palms of the tropics can exhibit their grandeur and beautiful foliage. On the left hand of this is a large stove, chiefly filled with Ferns, growing on rockwork, stumps, and roots of trees. On the right is a greenhouse, then another smaller domed house, used as a greenhouse conservatory; beyond that, the new *Camellia* house. Beyond the Fern stove, to the right, there is another greenhouse, then a corresponding smaller domed greenhouse conservatory, and finally, the *Victoria*

house. In front, outside, there is a noble terrace-walk, extending the whole length, and nearly thirty feet wide.

In another part of the garden, just below the old piece of woodland, which is very judiciously retained, there has been erected a glass-covered promenade, 140 feet long by thirty-six feet wide. This is used on gala days as a refreshment-room. This is a very brief and rapid sketch of this truly fine range of glass houses devoted entirely to the culture of plants. I shall describe them *seriatim* hereafter.

The ground is admirably well adapted for the purposes to which it has been devoted. It is a gentle declivity, facing the south. Opposite, across the vale of the Porter rivulet, is seen the beautiful banks of Sharrow, on which is placed the General Cemetery, with its beautiful church and chapel; and to the right and left of it the hill is covered with elegant villas, and their well-wooded pleasure-grounds. Few public gardens are so happily situated as those at Sheffield.

The out-door department consists of a long, broad terrace-walk, directly in front of the centre of the hot-houses, ending with a large, ancient Oak, the only single tree that was found on the ground at the time it was purchased. Near it is a basin of water, with a jet in the centre. Narrower walks are distributed in easy-flowing curved lines in and over the ground. Towards the lower end there is a hollow, which Mr. Marnock judiciously formed into a rustic dell, with grottoes, seats, and pieces of water. In hot weather this is a pleasant retreat, very cool and refreshing to those that are weary of walking in the more exposed parts of the grounds. The shrubs and trees are planted in natural orders. I particularly noticed a fine group covering nearly half-an-acre of ground. In another part, on the east side, is a botanically-arranged collection of herbaceous plants, judiciously concealed from what may be termed the mere pleasure-ground, by Beech hedges. It is beyond the skill of the gardener to make a botanical arrangement of plants a beautiful object; witness those at Kew. The million cannot, I am sorry to say, appreciate the beauty of botanical arrangement; and whenever that is the general character of a public garden, it will be visited only by men learned in botany. That has been found out long ago by the botanical gardens throughout the country, and in consequence, in order to give them a more pleasing and popular character, it has been found necessary to cultivate, in masses, plants remarkable for beautiful flowers. So they have been obliged to do at Kew, the Crystal Palace, the Regent's Park Gardens, and most other gardens dependent on the public for their support.

The soil of these gardens is not so well suited for *Coniferae* as that in the gardens at Birmingham. Though at a distance from the main body of the town, the smoke has an effect upon such clear-air-loving plants; yet there are some *Araucarias* that are promising, healthy plants; also, some *Pinus austriaca*, and two or three *P. excelsa*. On the contrary, all deciduous trees, including Roses, thrive as well here as anywhere else. I was rather surprised to see so few spring flowers in the borders, such as the enlivening Crocus, the simply elegant Snow-drop, and the glossy, golden winter Aeonite. Such early flowers, on a fine sunny day, render a garden very attractive in early spring. Perhaps, now that the resources of this garden are clear from debt, many additions of the floral kingdom will be added, to render it attractive even at this early season of the year.

Having given our readers the above general view of the gardens, I now return to the houses, to describe more particularly their contents. I entered at the east end, designated as the Camellia House. Very nearly every plant in it was in flower, not meagre and few in blossom, but full and effective, consisting chiefly in forced *Rhododendrons*; Indian *Azuleas*; *Dielytra spectabilis*,

three feet high and as much through; *Salvia gesneriflora*, immense bushes; *Camellias* in great variety, but, with the exception of two or three, the plants of this handsome-flowering genus are, as yet, but small. I noticed several plants in flower of the charming *Rhododendron ciliatum*, a new species from Sikkim. There are evidently several varieties of this species; I saw some with pure white flowers; others, beautifully tinged with rose-colour; some with flowers, the petals of which were broader and shorter than the others. I wish Mr. Beaton had seen them, he would have said, this is a sporting species, very suitable for hybridizing.

This house is intended for a greenhouse conservatory, and is laid out in beds, a broad walk runs round, and the centre is crossed with another walk. These walks are formed with stout, narrow boards, fastened to longitudinal sleepers. Hence, they are always dry, and pleasant to walk upon. The beds are edged with thick wooden edgings, which are to be painted in imitation of stone, and then, whilst wet, to be dashed with sand. Real stone would, unquestionably, have been preferable. Between the beds the walks are to be asphalted, and made to imitate granite, with Derbyshire spar beaten small. The *Camellias* will be planted in the beds as permanent plants. (See plan, page 8.)

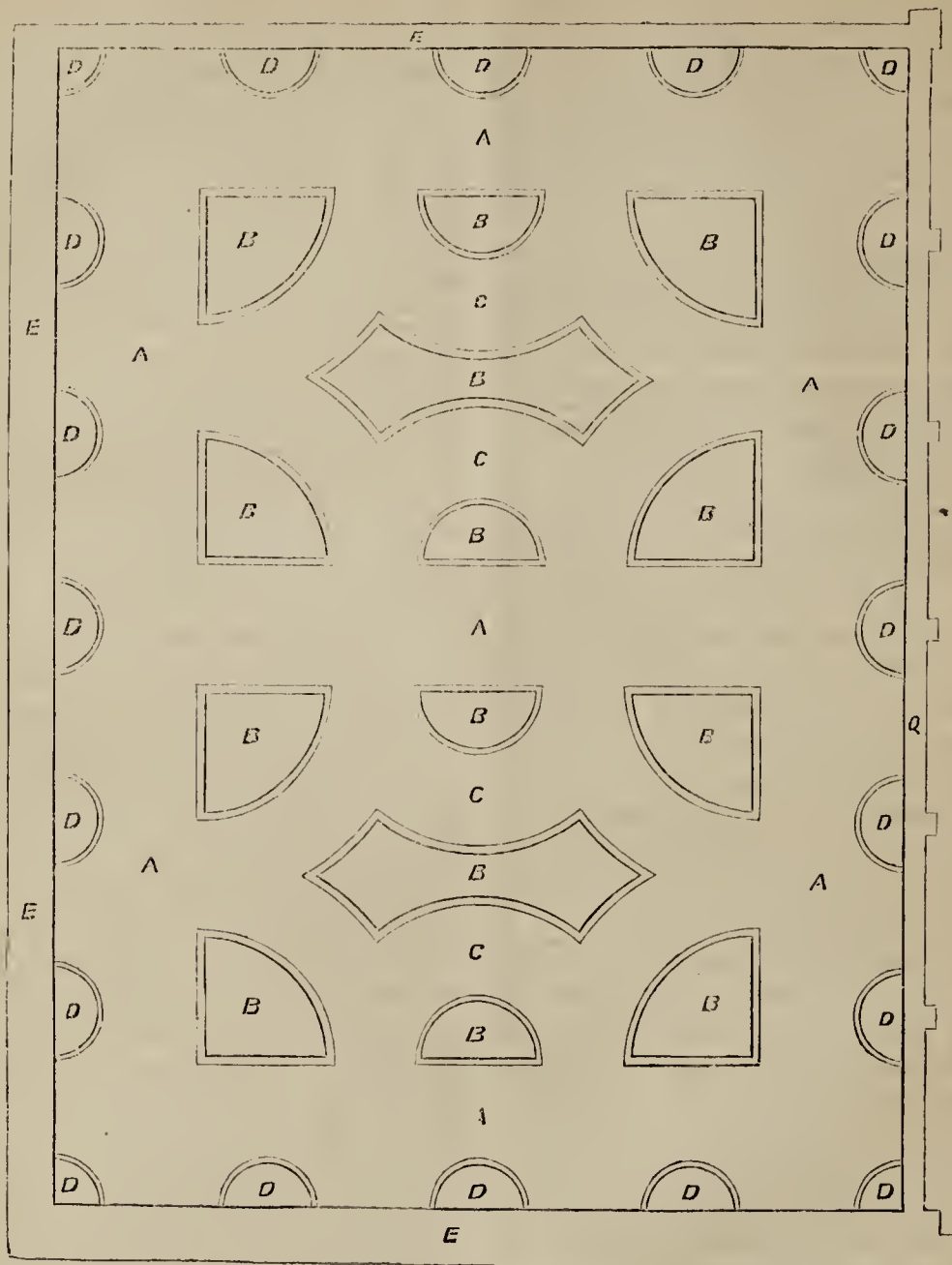
This house, though forty feet by thirty-six feet, has not a single pillar in it to support the roof, which is in the ridge-and-furrow style. It is supported by strong wooden rafters, and these, again, are kept up by bracing iron rods below each rafter; a most effectual, and yet inexpensive, method of keeping the roof in its place. Mr. Law assured me that the heaviest snow never caused the least perceptible bend in these thirty-six feet long rafters. In all my travels, I never saw so simple and yet so apparently strong a roof.

Round the sides of the house, next to the upright glass, there are twenty half-circular beds. In these it is intended to plant the best greenhouse climbers, to be trained to the iron rods above mentioned. These will add considerably to the beauty of the house when in blossom.

Passing from this new Camellia-house, we enter the small domed greenhouse conservatory. This is a nearly square building, with a glass front, and arched roof. The other three sides are common walls of brick, stuccoed. Hence, the plants soon rush up to the light of the roof, and are naked below, rendering this house a very indifferent habitation for plants. There was, however, one good *Araucaria excelsa*, and an extraordinarily fine specimen of *Acacia affinis*, now in full flower, with a clean stem a foot in diameter at the base. A more splendid object I never saw under glass; the branches hang down like a Weeping Willow, and were literally weighed down with long racemes of clear yellow flowers. Even at a considerable distance outside, the flowers could be plainly distinguished through the glass. As a February and March-blooming *Acacia* this is, certainly, the finest of all the genus.

The next house is a greenhouse, kept rather warm. In it I saw many fine plants of *Epacris* in full flower, and several large plants of the *Erica hyemalis*; also, some more *Dielytra spectabilis* of the same size as those noticed in the Camellia-house, and another fine specimen of *Acacia affinis*, which had been planted as a climber, but allowed afterwards to extend its branches over the walk. In this house there were many fine *Amaryllids* in bloom; also, forced *Hyacinths*, *Cinerarias*, and a remarkably fine *Witsenia corymbosa*, with its heads of pretty blue flowers fully expanded. This fine old plant ought to be in every greenhouse.

I noticed all the really distinct plants were labelled, and with a sort of label cheap, lasting, and effective. The material was zinc plate, stamped with the name, and hung to a branch of the plant. My ideas immediately flew to a table in the back shed, a rainy day, a



Scale $\frac{1}{8}$ in. to a foot.

A. Boarded walks.
B. Beds for Camellias.

C. Glass uprights.
D. Beds for Climbers.

E. Asphaltate.
G. Walls stuccoed.

list of plants, and an ingenious young man stamping the names on the zinc plates, and, at the same time, stamping the names on the plates of his memory, never, whilst life remained, to be obliterated or forgotten. The stages, I may just mention, are formed in steps with Yorkshire flags, and are almost indestructible.

Beyond this greenhouse we entered the grand central domed house, not quite so large as that at Kew, but still of a respectable extent. Here many of the Palms were very large, reaching quite up to the roof, sixty feet high. The finest plant is the *Phoenix dactylifera*, or Date Palm, with a stem three feet in diameter, and a fine, branching head of enormous leaves. The blank wall at each end of this house is covered with a bank of Ferns on rockwork.

Adjoining the Palm-house is a stove, chiefly filled with large Ferns. On the front is a stage, next the glass, filled with many stove plants in flower, especially the following:—*Franciscen latifolia* and *Hopeana*, the blue *Hebeclinium*, with fine, large heads, several *Bignoniæ*,

Clerodendron macrophyllum, *Phaius Wallichii*, *Euphorbias*, &c.

The greenhouse adjoining to this stove had in it a great number of well-grown and finely-formed Heaths, which would not have disgraced the garden of a London exhibitor. This house is kept very cool; hence, the *Dielytras* seem only just showing flower. On a shelf, or, rather, platform, behind, was a fair collection of dry stove plants, evidently in a too cold climate.

The next house is the corresponding small-domed greenhouse conservatory, and adjoining to it is the Victoria House. As the *Victoria* is now in a small state, in a nursing house behind the range, the house is made use of as a forcing-house. Here the *Rhododendrons*, *Azaleas*, &c., I noticed in flower in the Camellia-house, had been nursed and brought into bloom. This is a novel use to devote a *Victoria*-house to; but, nevertheless, a very useful one. The large tank in the centre was empty, and their large bushes had plenty of room to expand their blossoms.

T. APPLEYBY.

CALEDONIAN HORTICULTURAL SOCIETY.

THE Spring Quarterly Meeting was held in the Society's Garden, Inverleith, on the 13th instant. Colonel Madden in the chair.

On this occasion the following new Members were elected:—Alexander Finlay, Esq., Castle Toward; Matthew Stewart, Esq., 28, Hanover-street.

In terms of a Report from the Prize Committee, Premiums were awarded as follows:—

For the best twelve *Hyacinths* produced by Nurserymen there were five competitors. The Silver Medal was awarded, as first prize, to Messrs. J. Dickson and Sons, Inverleith, who produced the following kinds:—Laurens Koster, Howard, Alba Superbissima, Blocksberg, Grand Vidette (white and blue), Orondatus, Voltaire, Grand Lillas, Herenles, Lord Wellington, Maria Catherina, and Charles Dickens. A second premium was voted to Messrs. P. Lawson and Son, Golden Acres, for Nimrod, La Tour d'Amerique, Herman, Capiola, Mont Blanc, Grand Vidette (blue), Miss Ainsworth, Grand Lillas, Lord Wellington, Charles Dickens, Heroine, and Cochinelle.

For the best six *Hyacinths* produced by practical gardeners there were five competitors. The Silver Medal was awarded, as first prize, to Mr. James Henderson, gardener to C. K. Sivewright, Esq., Cargilfield, for finely grown plants of Lord Wellington, Orondatus, Laurens Koster, Grand Vidette (blue and white), and Baron Tuyl. A second premium was voted to Mr. James Douglas, gardener to John Russell, Esq., South Bank, Canaan, for Lord Wellington, Lord Grey, Rosalie, Charles Dickens, La Tour d'Auvergne, and Prince Albert.

For *Heaths* three premiums were awarded; the first (Silver Medal), to Mr. John Smith, gardener to Viscount Melville, Melville Castle, for a splendid plant of *Erica hyemalis*, four-and-a-half feet through and three-and-a-half feet in height; the second to Mr. J. Fowler, gardener to J. M'Murray, Esq., Glenesk, for a fine plant of the same variety; and the third to Mr. J. Lockhart, gardener to R. Dundas, Esq., of Arniston; also for *E. hyemalis*.

For *Azaleas* two prizes were awarded; the first to Mr. Lockhart Arniston, for Egertonii, and the second to Mr. Allan Cameron, gardener to Samuel Hay, Esq., Trinity Cottage, for Fulgens.

For the best *Rhododendron* the prize was awarded to Mr. Cameron, Trinity Cottage, for a hybrid named Diversum. A second premium was voted to Mr. Henderson, Cargilfield, for a pale variety of Nobleanum.

For the best six *Camellia* blooms there were seven competitors, and two prizes were awarded; the first to Mr. John Laing, gardener to the Earl of Rosslyn, Dysart House, for fine blooms of Double white, Palmer's Perfection, Princess Bacciochi, Duchess of Northumberland, Elata, and Imbricata; and the second to Mr. David Fowler, gardener to James Tytler, Esq., Woodhouselee House, for Double white, Feasstii, Imbricata, Jeffersoni, Prattii, and Alba fimbriata.

For the best *Camellia* plant (for which there were four competitors) the Silver Medal was awarded to Mr. Lockhart, Arniston, for a finely-marked plant of Donkelaarii. A second premium was voted to Mr. Cameron, Trinity Cottage, for the same variety.

For *Cinerarias* the prize was gained by Mr. Thomas Reid, gardener to William Wilson, Esq., Broomfield, Blackhall, for Bessy and Cerito. A second premium was assigned to Mr. Lockhart, Arniston, for Wellington and Pauline.

The prize for the best Stove or Greenhouse Plant was awarded to Mr. Lockhart, Arniston, who produced a fine plant of *Pultenaea subumbellata*.

For the best two hardy Herbaceous Plants (grown in pots) there were four competitors, and two premiums were awarded; the first to Mr. Douglas, South Bank, for *Astilbe japonica* and *Dielytra spectabilis*; and the second to Mr. James Mitchell, gardener to Lady Keith, Ravelston, for *Epimedium violaceum* and *Helleborus Olympicus*.

For *Savoy*s two premiums were awarded; the first to Mr. Lockhart, Arniston, for Green Cape; and the second to Mr. Reid, Broomfield.

The prize for *Leeks* was awarded to Mr. Mitchell, Ravelston.

There were four competitors in *Rhubarb*, and two pre-

miums were awarded—the first to Mr. John Porterfield, Upper Hermitage, for Victoria; and the second to Mr. John Woolley, gardener to Charles M'Laren, Esq., Moreland Cottage, Grange Loan.

On this occasion a few extra productions not intended for competition were placed on the tables for exhibition only. Mr. Laing, Dysart House, exhibited, in fine condition, a splendid specimen of *Rhododendron Dalhousiae*, grafted on a straight stem of *R. ponticum*. The plant stands ten feet high, has twenty-two trusses of flowers, each truss consisting of from three to seven blooms. For this fine specimen the highest award of the Society was given to Mr. Laing. From the garden of Isaac Anderson, Esq., Maryfield, an interesting seedling hybrid *Rhododendron* in bloom, raised between *R. dauricum* and *Formosum*; from C. K. Sivewright, Esq., Cargilfield, a collection of beautiful *Chinese Primroses*; from Messrs. Cunningham, Fraser, and Co., a basket of *Cyclamens*; from Samuel Hay, Esq., Trinity Cottage, *Rhododendron Knightianum* and *Epacris laevigata*; from Mr. James Gordon, Niddrie House, fine *Mushrooms* grown in pots, for which a Certificate of Merit was granted; and from Mr. Arthur Caldor, Seaciffle, a collection of *Apples* in excellent condition.

CONSEQUENCES.

By the Authoress of "My Flowers."

(Continued from Vol. XI., page 369.)

I MUST invite my readers to transport themselves in imagination to a very sunny and hot situation in Bath, where, in a roomy, but exquisitely dirty lodging, Mr. and Mrs. Grosvenor had for some years resided, and where their span of life was passing away in darkness on the one side, and bitterness on the other.

I believe, verily, that the fall of man is never so plainly and awfully set forth, or his restoration to the divine image so sweetly and blessedly portrayed, as in the estate of matrimony. A happy, holy matrimony, mysteriously shadows out the union between "Christ and the Church;" and it was meant to impart as much of earthly happiness as could survive the fall: but a worldly, unhappy marriage, may truly be compared to the "weeping and gnashing of teeth," where "the worm dieth not, and the fire is not quenched." It would give no unbounded pleasure, if all my *morried* readers could say, with brightening eyes, "We married 'in the Lord.'"

Mrs. Grosvenor's mind gave way under multiplied vexations and irritations, with nothing to soothe or allure her to better things. Mrs. Griffiths was unceasingly kind, but she could do her no further good than feed her secretly in the kitchen, or interpose during a burst of fury from her husband. Upon one occasion she rushed into the room when the uplifted poker would have fallen on the head of the defenceless wife, and her stout arm and undaunted spirit wrenched it from the startled husband, who would have been, in one more minute, a murderer! Mr. Grosvenor could not understand a failing memory and growing childishness. They came on so gently, and his own intellect was so slow to receive impressions, that he treated as perverseness and contention, that which was only imbecility tinged with former characteristics, and the tempests that raged in their apartments kept poor Mrs. Griffiths in terror by day and by night.

Mrs. Grosvenor, as the weaker vessel, felt the storms of her lifetime very sensibly as age advanced. Her situation, from the time they settled in Bath, was calculated to make matters worse. A Unitarian husband, a Popish landlady, and a dirty lodging, were quite enough to hasten, if not produce, aberration of mind; and Mr. Grosvenor's treatment very soon caused her to become totally childish with regard to present events. Yet it is wonderful to observe how such a calamity could exist, with recollection of former days. She could remember everything that had happened in her youth, and could repeat the same histories of old and happier times and people with perfect correctness. She could take up quotations, too, of ancient songs and snatches of poetry, and would sometimes touch the strings of a little tinkling guitar, and make wild and melancholy music. Now and then, she would speak with acuteness and rationality, which caused

Mr. Grosvenor to resist manfully every attempt to persuade him of her imbecile state, and the biting retort would often goad him to madness too. But as to all present concerns she was as an infant, and sat by a roaring fire the live-long summer's day, amusing herself with folding up her handkerchief, or pinning the folds of her dress together, with unconsciousness terrible to see. Readers! I would implore you to contemplate this sad picture closely; not only as warning us to look well to our ways in worldly things, but, above all, *in spiritual*. "The night cometh when no man can work." Not only the night of death, but the night of memory may come and seal our destiny quite as unchangeably. We may have health, and wealth, and time, and yet night may rest upon our intellects, and our eternal state be fixed. Readers! are we prepared for death—for judgment—for *night*—whatever that night may be?

Mr. Grosvenor was a man of iron constitution. He had tried it severely, but, like armour of proof, it had never failed him; he had long passed the age of man, and yet no disease of any kind had made its appearance as the forerunner of the King of Terrors. Nevertheless, the strong man must be brought low; and the failure of bodily strength, without any visible cause, announced that Mr. Grosvenor's earthly tabernacle was about to be dissolved. Alas! could it be said that he possessed a "house not made with hands, eternal in the heavens?"

It was a painful, yet a deeply instructive sight, when the violent husband, and the ill-used wife, sat alike stricken and helpless by the fireside; the one, with yet fierce and unsubdued passions, scarcely able to move in the chair where he was seated; the other, with light and active limbs, yet destitute of those distinguishing faculties that raise man so high in the creation. Perpetual questions, asked over and over again, attentions offered continually, after refusal, and orders to be left alone, produced irritations and language grievous to be borne, and terrible to see in one who was now standing within the very portal of the tomb.

Oh! what a dark valley stretches before a Unitarian! What stumbling feet he goes with into old age and sickness! His only hope, a vague, shadowy uncertainty, based upon works which he has never done, and mercy, which he has framed out of his own ignorance!

I suppose there was little help or comfort to be given by his minister, for he never called to see the sick member of his congregation. What, indeed, can any one say of comfort to a dying man, unless he can place before his spiritual eye Him who drew out the sting of death, and robbed the grave of its victory? No wonder that all who have not this healing balm to apply should shrink from a dying chamber.

I find I have more to say of the latter days of Mr. and Mrs. Grosvenor than can be compressed into my present space; and I think a short pause will be profitable at this point. Let my readers meditate upon the hour of death—at least, upon the hour when the shades of "night" begin to draw round them—when the feet of those who have carried out their neighbours and friends to the tomb are heard drawing near, and when a still, small voice within says, "Prepare to meet thy God."

Dear readers! that voice may reach you and I, when "no man can work." We may be prostrated by a stroke, disabled by imbecility of mind, laid low by distracting pains, or oppressive illness; and we may hear the trumpet-call, when we cannot spring to the saddle! Oh, let me beseech you to cast away your garment of self-righteousness, *now*, while "Jesus of Nazareth passeth by;" and before He is out of sight and hearing, cry to Him and say, "Lord, that I may receive my sight."

SENDING PLANTS TO AUSTRALIA AND VAN DIEMEN'S LAND.

Our readers have been informed already the Rev. Gentleman who wrote so ably on Bees in *THE COTTAGE GARDENER*, under the title of "A COUNTRY CURATE," is now the Warden of Christ's College, Launceston, Van Diemen's Land. Personally we are strangers; but in gardening and rural matters the "COUNTRY CURATE" and the writer are old friends and associates; therefore, it did not take me by surprise when I received a letter from him last October, beginning with

"Auld Lang Syne," and ending in requesting that I should undertake a commission for him to send out as many trees and shrubs as a certain sum of money would cover all expenses. He gave me a reference in London for the needful, and after ascertaining that all was right in that quarter, I went to work as follows, after promising a detail of the transaction to other correspondents of these pages. But first of all let me say what my instructions were:—

"You must know that there are many princely estates in this island, and increasing wealth capable of improving *in infinitum*; but owing to the difficulty of procuring English timber and forest-trees in any sufficient quantity, very little has been done in this branch of improvement; and if we have to wait till we get *good* seed from home, and enough of it, and till that seed has grown, we shall have to wait many, many years before any real progress is made towards relieving the face of the cleared country from the dull monotony of the spontaneously-growing native trees.

"I am anxious, therefore, to open a connexion with some first-rate, intelligent firm for the supply of forest-trees—not of forest-trees alone, but of flowering and other shrubs, evergreens or deciduous, fruit-trees, &c., &c. The immediate occasion of my requesting your assistance arose out of a refusal of two very interesting articles from your pen, which appeared in *THE COTTAGE GARDENER* (1852) on the subject of 'Packing trees for exportation' to these distant colonies. The plan there detailed by you seemed so admirable, that I remember well it then producing a deep impression on my mind; and hence I naturally think of you in my present wish to get such trees from England. I put to you, therefore, a plain question. Can you, and will you, so far co-operate with me in my wish to benefit this colony, as to try, by various experimental modes of packing, some *best*, or at least good, method of getting them landed alive here? This present month (June) and latter part of May, as well as, perhaps, July, are the best months for planting here; consequently, as this letter will probably reach England in October, a good season will be before you in which to select, see to the packing and shipment (direct for Launceston, to my address) of as many various experimental lots of trees as you please, and I will promise you (D.V.) to give you as minute and faithful an account of the results of such experiments as you can possibly desire. My known character as a careful experimentalist will be some sort of guarantee for my acting up to my promise.

"If unable yourself to undertake the labour, which this would entail, as well as the consumption of time, may I yet count on your communicating with some trustworthy seedsmen, who will be interested in the thing, and give it his best attention.

"I would mention the following as some which I should like to have, to the amount of — to begin with, *on trial*:—

Alder, common	Norway Spruce
Beech, common	Silver Fir
Birch, common	Larch
Chesnut, horse	Maple, English
" Spanish	Barberry, common
Hazel	Aucuba japonica
Holly, common	Guelder Rose
Hornbeam	Heather
Lime, common	Laurel Bay
Oak, English	Syringa
Service-tree	Rhododendrons
Scotch Firs	Azalea, common

"I remain, Sir, your obedient servant,

"LATE 'A COUNTRY CURATE,'

"Now Warden of Christ's College, Tasmania."

Here is a business letter worthy of the well-known writer. From the end of May to the middle of July is the best time to plant trees and shrubs in Van Diemen's Land; and as the "run" from London to Launceston "direct" is generally about four months, the best time to ship plants for that quarter is from the middle to the end of February. The good ship "Alliance" was announced for this voyage just to the very day I wished for; which, of itself, is a very good omen at the beginning of these experimental trials. Having had from October to February for preparation, the expense of the trees has not been so much as if an order had been sent to the nursery to get them ready in so many days—perhaps hours; and the selection of subjects is much better also, as during that time, while other orders were being executed, such and such plants were put aside as being fit subjects for packing and for enduring a long voyage. The "voyage" plants increased thus, from week to week, at little or no cost, till at last, owing to the mildness of the winter, there were more than enough collected to one spot ready to be packed at a day's notice whenever a vessel was announced, and every care which a long experience suggested was taken with the naming and packing. All the parties to this trial of skill were well aware that every turn they did, and the final result, would be published to the world through these pages. I do not mean to be understood as thinking for one moment that such a check was at all necessary; but still, I am old enough to know that no harm could come from the fact being publicly known, nor lessen the desire of the packers for success. Yea, I take it to be of the utmost consequence to those who may be engaged on such trials to

know how the oldest and most experienced hands in this country proceed in such matters connected with their calling. I am among the oldest practical hands in this country at this kind of work; but I gave it up with the spade and apron in 1851. I do nothing of the kind now, unless it be to assist a personal friend with advice, or superintend a consignment, as on the present occasion, when the friend is out of the country, and cannot look to it himself. I never sent out a parcel of nursery stock but through one firm; other firms, no doubt, are equally good, and just as successful; but as long as one is served properly, it is neither a good plan nor a fair way of dealing, to change hands. Besides, our great nursery firms are the sharpest men in the country; they can see through a fellow as if he was a glass bottle, and if you are one of those who are "here to-day and off to-morrow," not one of the fraternity would scruple to give you the first plant which came to hand, whether it was good, bad, or indifferent; but "stick" to any one of them, and he would go through fire and water for you, and be glad of the opportunity to show that he is "a trump." Messrs. H. Low and Co., of the Clapton Nursery, is the firm I employ on these occasions. They never grumble at any bother I give them; but I believe they think me rather odd and fanciful at times, if not self-willed; but, altogether, we manage to keep pretty near the mark; and I have great hopes of this consignment, only it is sent off full two months later than I ever sent to that quarter of the world.

Although I could describe the actual mode of packing to the last move, you could no more learn how to pack for Australia from my description than you could how to make a military cloak, or a ball dress, from reading how they are and ought to be made. Depend upon it, the packing is the next grand secret after the proper time for sending off, and the condition of the plants. These plants were numbered on wooden square tallies, and fastened to the plants with copper wire. There were duplicates of all the plants, and of many of the kinds there were three plants. All that the Warden named were first on the list, and I either suggested or approved of the rest. The whole amounted to 288 plants, and we shall hear of them next October or November, when I hope to learn that not more than ten or fifteen per cent. have perished. A good deal depends on how they are treated on their arrival. They should not see the sun for the first three weeks after being unpacked, and the air should be kept moist about them by throwing water on the ground *near them*, but not *over them*. In that latitude the sun is on the north side of them; therefore, the plants should stand in a sheltered place looking to the south; their roots should be spread out on the ground, and be covered five or six inches deep with very sandy soil; their heads leaning against a bank, and some half-rotten grass or ferns under them and round them, and partly covering their heads and stems. This hay, or fern, to be damped as often as is necessary, in order to keep the whole as cool and moist as possible, without "stagnant wet" at the roots, or near them.

It is, also, as well to know that all expenses on these consignments must be paid on this side, even the carriage to the very end of the journey. They should be insured to their full value. A bill of lading and a list of the plants should go by the same vessel, and a duplicate of each be sent by the same post.

D. BEATON.

VEGETABLE CULTURE AND COOKERY.

NO. IX.

CABBAGE.

THE best sorts of Cabbages for garden purposes are *Shilling's Queen*; the true *Early Battersea*, or, as it is sometimes called, *Early Barnes*; the *Enfield Market*; *Nonpareil*; and *Sprothboro*. There are many varieties which have local reputations, and others which have been introduced of late years, as improved or selected varieties of those already mentioned; but every purpose will be well served by using those mentioned above.

For a supply of *early spring and summer Cabbage*, the seed should be sown in the second week in August, in an open situation, broadcast on beds, and raked in. When the plants have acquired two or three broad leaves, prick out as many

as are required of the strongest into another bed, at a distance of four or six inches apart, and, if the weather is dry, water them till they are established; but allow the others to remain in the seed-bed all the winter. In October or November, those that were pricked out should be transplanted on a piece of ground, which has been previously well dug and manured, in rows two feet apart, and from fifteen to eighteen inches distance from each other in the rows. As they grow, hoe and loosen the earth about them; earth them up on both sides to stand the winter, and they will be ready for use in spring and early summer. Should any of them suffer from the severity of the winter, or from grubs, let them be removed, and their places supplied with the strongest that were left in the seed-bed.

At the end of February, or beginning and middle of March, let those which were left in the seed-bed at the August sowing be planted out in the same way as directed above, to come in and succeed those which were planted out in October and November.

For the *late summer and autumn supply* make another sowing in the first or second week in March, and when the plants are strong enough, let the largest of them be planted out in May, in the open quarters where they are to stand. In June, another portion from the same seed-bed may be planted out; and these, with the remainder from the seed-bed planted out in July, will furnish a supply during the autumn and early winter.

Red Cabbage should be sown early in August, as directed for the other varieties, and after standing the winter in the seed-bed, they should be transplanted in February and March where they are intended to remain, in rows three feet apart, and the same distance from each other in the rows, and in September and October they will be ready for use.

All the Cabbage family delight in a rich soil, and, where liquid-manure is available, occasional waterings during the season will be beneficial. As the Cabbages begin to heart, it will be well to tie them round with a string of matting, in the same way as is practised with Lettuce. Some cultivators recommend the immediate removal of the Cabbage-stalks after the heads are cut; but I have always found that the stalks of the late summer and autumn crops, if allowed to stand, produce an abundant supply of excellent Coleworts during the late part of autumn and early winter.

TO BOIL YOUNG CABBAGE.—Remove the outer leaves, and pick the Cabbages clean; let them lie for an hour in salt and water, to destroy the insects; then put them into a saucepan, with plenty of boiling water, and a table-spoonful of salt. Let them be quite immersed in the water, and after boiling, without the lid on, till they sink to the bottom, they will then be done. This refers to young Cabbage; but if it be large and old it must be cut in quarters, and boiled in an abundance of water till the stalks are quite tender. There are many who prefer Cabbage boiled with ham, bacon, or pickled beef,—a mode which is often attended with disagreeable results, from the unwholesomeness which the grease of the meats communicates; but if the liquor in the pot is first skimmed before the Cabbage is introduced, the required flavour will be preserved, while the evil consequences will be avoided.

TO DRESS LARGE CABBAGE.—There is some Cabbage which is very large and solid, and which requires long cooking to render it wholesome. The following receipt, furnished by a physician, by which the Cabbage is divested of its unpleasant odour and unwholesome properties, will be found worthy the attention of good housewives, and particularly of those who have a consideration for the digestive powers of themselves and others:—

Trim the Cabbage, cut it almost in quarters, but do not divide it entirely, and let it be for an hour in salt and water, to free it from insects. Have ready a pot *full* of boiling water, seasoned with a tea-spoonful of salt, into which put the Cabbage, and let it boil an hour-and-a-half, skimming it occasionally. Take it out, drain it through a cullender, and then pour cold water upon it from a pump, jug, or picher, till it has become cold all through. Having thrown away all the first water, clean and fill the pot again, and when it boils put in the Cabbage, which by this time will be quite cold, and boil it for two hours or two-and-a-half. When the stalk is perfectly tender, take up the Cabbage, and drain it,

pressing it down with a broad ladle to squeeze out the moisture; lay it in a deep dish, and cut it entirely into quarters. Lay some bits of fresh butter among the leaves, add a little pepper, cover the dish, and send it to table.

If preferred to be cooked with ham or bacon, the second boiling can be in the pot with the meat.

TO STEW CABBAGE.—Parboil in milk and water, and drain it; then shred it, and put it into a stewpan, with a small piece of butter, a small tea-cupful of cream and seasoning, and stew tender. Or, it may be stewed in white or brown gravy.

BORECOLE DRESSED THE GERMAN WAY.—This is somewhat similar to the preceding. Take Borecole, parboil it, chop it up a little, and put it into a stewpan, with a sufficient quantity of warmed butter and bacon. When nearly done, without having been too much pressed, moisten it with a little gravy or broth, and serve with bacon or sausages.

CABBAGE WITH CREAM.—Wash the Cabbage, and boil it in water with a pinch of salt; when it yields to the pressure of the finger, take it out, and squeeze it; put it into a saucepan, with butter, salt, pepper, nutmeg, and a spoonful of flour; pour over some cream, and stew it.

STUFFED CABBAGE.—Take a firm-hearted Cabbage, remove the outer leaves, the stalk, and the thick veins, and, having placed it in a dish, pour some boiling water over it, which will take away the acidity and loosen the leaves. Let it drain, and then garnish the inside and between the leaves with a stuffing of veal and bacon, chopped fine, or sausage meat; tie it up, and stew it four hours, with onions, carrots, scraps of meat, bacon, and such like, to which add a little broth. Serve with the liquor strained and reduced, and thickened with flour.

CABBAGE SOUP.—Take a firm, white Cabbage, wash it well, and mince it, and let it stew over a slow fire in a little butter. When it begins to be tender, and to be a little reduced, moisten it with vegetable broth, adding pepper and salt to the taste, and, if required, a little more butter may be stirred in. When the soup gets a good colour, put in bits of bread cut the size of a penny, and it is ready for the table.

SAUER KRAUT.—This national dish of Germany is thus made:—Take six white Cabbages, and cut out the stalks, shred the Cabbages very finely, and mix with them half-a-pound of salt, half-an-ounce of juniper-berries, or caraway-seeds, and press the whole as closely as possible into a cask. Put a cloth over the shred Cabbage, a wooden cover over the cloth, and a heavy weight over the cover. Let it stand in a warm cellar for two months, preserving the liquor which rises on the top; it should then be removed to a cooler place, and it is ready for use. To dress it, put a quart into a stewpan, with a little butter, and half-a-pint of weak gravy; stew gently until tender, and serve under boiled pork or beef, or sausages, boiled or fried. The Bavarians mix it with butter and red wine after it has been boiled.

COLDRAW.—Shave a hard, white hearted Cabbage as finely as possible, put it in a salad-bowl, and pour over it the usual salad dressing. This is an American dish.—ROGER ASHPOLE.

HOW TO SUBDUE THE AUSTRALIAN WILDERNESS.

(From the Rural Magazine.)

We have seen many gardens in many lands. Even in one county in England we visited one hundred and twenty in the course of a few months, taking notes of each. We have seen almost all the principal Botanic and Royal Gardens in Europe, with the market-gardens round their greatest cities; but in the whole course of thirty years' experience we have never seen such a lot of neglected gardens, or of such as necessitate a man in some cases to mow his way into them, as we have witnessed in the Australian colonies. However, as the excitement of the gold fever is fast subsiding, we feel confident that what may now be written on this subject will not remain long unnoticed by a young and rising community, composed as it is of hardy native-born Australians and intelligent new arrivals.

It must be acknowledged by all that the quickest and most perfect means of at once raising up scenes of beauty

and giving a cultivated aspect to a new place, in the shortest space of time, is to go at once into the dense forest and cut and carve out your park, villa-garden, or farm, at pleasure; then you can leave your groups of trees and rows or avenues of them at your will, having your pleasure-gardens, kitchen-gardens, and flower-gardens sheltered to a nicety. But where the hand of man has destroyed the forest, or where nature never planted a tree, a different, a longer, and a more precarious undertaking awaits the improver of lands.

Supposing that you settle down upon a piece of land, with a gum-tree here and there, say forty or fifty to the acre, you may rest assured that you can always do something there. The first thing to be done, whether on a large or small scale, is to grub out enough of space to form a kitchen-garden, a lawn, and a paddock for horse and cow feeding; but as for encouraging poultry about your place at this early stage, we would advise you to dispense with such a source of profit, as the harm that they will do to your crops, if even only running across your paddock, will make you rue the day you introduced them;—the grass seeds sown for pasture they will eat, and the herbage in other parts of your grounds they will damage or destroy. The ground for the kitchen-garden ought to be at once trenched, by laying it open for three months to the summer's sun, and in afterwards mixing the clay and sand together thoroughly, to the depth of at least twenty-six inches. If there are gum-trees on your land, it can at once be known that there is sand, loam, and clay not far off. On alluvial plains the trenching may be dispensed with, but if on scrub lands, clay must be mixed with the sand; and if on sandy land, clay must be dug from the bottom and mixed with the sand on the top, which will in many cases supersede manuring of any kind. This trenching or mixing must also be extended to the grounds meant for planting fruit-trees, shrubs, or even flowers, to make them prosper to perfection. When the parts intended to be planted are turned up, the roads shaped out, and the outline of the different masses of trees, flower-beds, groups of shrubs, fruit-trees, or bushes made, it is then time to think what are the kinds to be put in. Now, to combine ornament with use, nothing can be more beautiful than to have a due portion of fruit-trees in masses round your mansion. As to the outline of the groups, let it be irregular: and, whether on a large or small scale, the turnings ought to resemble the bendings of nature, as found in any part of the habitable globe. To make this more plain, suppose a large mass of apple-trees resembling in shape the island of Great Britain, with a tree or two placed in the position of the smaller islands around; and in another direction from your mansion, have a mass of chesnut-trees resembling Italy, so placed as not to interfere with the picturesque effect and harmony of the whole; in your next group plant a mass of olives to resemble Greece, with trees in relative positions to its islands. We have considered your lawn as water, and your flower-beds and clumps of trees as land; and we design the whole to be as near the shape of the real lands and waters' outline as possible. In this manner as many plots as convenient might be planted, each with a different kind of fruit-tree, shrub, or ornamental flowering plant; but in no case, if you desire the future welfare of the trees, or plants, let more than one species prevail in one bed or mass.

Among the ornamental and useful trees and shrubs, plant the acacias, mimosa, eucalyptus, epacris, myrtle, olive, pomegranate, chesnut, orange, lemon, shaddock, oak, elm, larch, yew, lime, birch, weeping-willow, laburnum, poplar, pine, spruce, silver-fir, service, sycamore, walnut, filbert, alder, ash, beech, hornbeam, pinaster, privet, holly, black and white thorn, pear, cherry, apple, plum, almond, fig, medlar, guelder-rose, arbutus, phillyrea, alaternus, rhododendron, azalea, aucuba, laurel, cedar, daphne, erica, juniper, laurustinus, furze, broom, and many others, both indigenous and imported; at the same time a due proportion of climbing plants, as the clematis, dolichos lignosus, ivy, passion-flower, and climbing roses of many varieties. These may be allowed to grow over stumps of trees, or be fastened to stakes in the most simple manner, so as to preserve the distinctive characteristics of each. Irregular flower beds must also be made, and planted with heartsease, pink, picotee, carnation, petunia, verbena, salvia, snapdragon, pelargonium, dahlia, calceolaria, fuchsia, with many more kinds; and

with also a due sprinkling of ixiads, anaryllises, liliums, jonquils, hyacinths, crocuses, tulips, polyanthus, auriculas, primroses, &c., with some of the most showy annual flowering plants, such as *onothera*, *Clarkia*, *clintonia*, larkspur, *mignonette*, candytuft, stock, *memphila*, sweet peas, and various other kinds: but in all cases let no edging of flowering plants, or any other kind of plants be made, as a continued row of one sort spoils a picture; in the same way as you might spoil one of Claude's by drawing a line across it. It will be seen by this arrangement of fruit trees in the pleasure-ground that no orchard will be required; as the groups of fruit trees and bushes can be so blended with other plants as to be both ornamental and useful.

For the kitchen garden, when it has been trenched and the soil well mixed together, if in the month of April, seeds of the following kind may be at once sown:—Stone, Swedish and Dutch turnips, early York, and Battersea cabbages (as early kinds); flat, Dutch, drum-head, and bullock-heart shaped for later kinds; carrot, parsnip, onion, radish, lettuce, endive, spinach, mangold wurtzel, cauliflower, brocoli, leek, savoy, broad beans, and dwarf peas. In all cases, after levelling the ground and smoothing it, cover the seeds with decayed leaves or rotted manure. If no rain has as yet fallen, water the ground before sowing the seed. The paddock or the land for pasture must be ploughed up at once, taking care to set one ploughman after the other, with a coulter that will cut into the subsoil as deep as possible in the same furrow. Some potatoes may be put in and covered over with manure, but so far beneath the top as when they are earthed the ground will remain level. Seeds of lucerne, clover, Dutch, English, Bokhara, crimson and Italian, ought all to be put in separate patches otherwise they will not prosper. Patches of rye grass, Italian and English, as well as the Timothy grass, and various other kinds, may now be put in. If the uncultivated parts of the estate possess not good herbage grasses, a due sprinkling of the clovers, medicagos, and the above kinds, may be of use; even the Scotch thistle may be a source of profit if cut and beaten to pieces before it scatters its seed,—with many other herbs and plants, which will be introduced to our readers as well suited to prosper in the climate of Victoria.

It must be borne in mind that the making out of a flower, fruit, vegetable or any other kind of garden or small farm, is one thing, and that the keeping of the same in order is another. In a country like this, weeds are comparatively easily destroyed,—much more so than in moist climates in many parts of Europe: a good agriculturist or horticulturist should never allow a weed to run to seed, or deep-rooted plants, that will hurt the crops, to remain long undisturbed. The ground in every part wants frequent stirring, to admit the rain, air, and frost, if any; but if none, the sun's rays will often effect the same purpose. The English, Scotch, and Irish gardeners are far behind the French, German, Turk, Tartar, Russian, and Persian gardeners, in knowing the value of keeping the grounds not too smooth. Plantations dug and kept rough at the top keep longer clean; admit the rain more easily, and the air and heat, which are often necessary. The grass meadows often want forking up or loosening, to let the air in and make the plants grow; and round the roots of fruit trees the same is wanted to be done for the same purpose. All crops, such as barley, lucerne, clover, wheat, oats, tares, peas, beans, ought to be kept free from weeds; and all the trees, shrubs, herbaceous plants, and every thing else, ought to be planted shallow, and the surface of the earth round the stem kept covered with rotted manure during the first year of planting.

EARTHENWARE PIPES INSTEAD OF FLUES.

I AM induced to offer the few following remarks upon the heating of greenhouses by earthenware tubes, from reading an article in your journal by Mr. R. Fish. He seems to recommend that, for a short distance from the furnace, the flue should be made of brickwork; but from the very material of which the tubes are made, or should be (fireclay), this, I think, is absolutely unnecessary.

Last spring, a friend of mine purposed erecting a span-roofed greenhouse; and on speaking with me on the subject, I advised him to give the earthenware tubes a trial for the flues; and although both the architect and builder con-

demned my plan, yet my friend followed my advice, and put in tube-flues up to within one brick off the furnace. It has acted most admirably, the flue heating with so little fuel (a mere handful sufficing), and in so short a time. The saving of fuel (gas coke), I estimate at more than fully one-half; and the heating of the flue is effected in less than one quarter the time required by a brick one. The cost, too (at least, in this neighbourhood), is so much less. So that this, with its heating qualities and the small amount of fuel consumed, render it admirably adapted for the purpose.

The best article for stopping the joints more immediately contiguous to the fire, is ground fire-clay, mixed with water to the consistency of mortar; and for the other parts, a stopping of oakum, or cement; but nothing will be found better than a mixture of clay and cow-dung; the latter sets well, and is less likely to crack, and will be found effectually to exclude any smoke from the house.

In choosing the pipes, pick out those that are of a light colour and with as little glaze upon them as possible; these being freer from iron, less burnt, and thereby less likely to fly, as it is termed.

I may just remark, that I am not in the trade, being only an amateur florist.—J. C.

DEATH OF TREES IN ST. PAUL'S CHURCHYARD.

IN reply to a question by Mr. Bowles in your last week's number, respecting the trees dying in St. Paul's Churchyard, I beg to inform him, that it was in consequence of a flock of sheep being turned in to eat the grass,—barking the trees as far as they could reach. The trees were then bound up with common wadding, and this was the locks of dirty wool, or cobwebs, mentioned by him; there was no disease previously. This I know to be a fact, having witnessed the whole transaction.—AN OLD SUBSCRIBER, *St. Paul's Churchyard*.

CHILDREN'S GARDENS.

No. 1.

THE title of our article may, perhaps, excite a smile; but we believe it will not be "a smile of contempt" from any of our readers blessed with offspring.

For our own part, we freely confess to a deep interest in these scenes of juvenile exertion, and always make a point of inquiring for their locality,—taking the proprietor for our guide, and listening attentively to all his hopes, plans, and queries. The amount of satisfaction derived from these inspections has varied considerably. In some few instances, we have been joyfully led to a neat little plot, in which every plant showed the attention it had received from its owner, whose eye was earnestly fixed on the countenance of his visitor as he related the history of his pets, or called attention to some particular favourite. On the other hand, we have been, too often, indifferently, even reluctantly, conducted to a neglected spot, tenanted by a few ill-grown plants trailing on the ground for want of a support, and choked with weeds; the answers elicited by our remarks proving, also, a total absence of interest in the whole affair. If our readers will but mentally run through the children's gardens within their own observation, we believe the result will corroborate our opinion, and the question will arise in their minds, as it has in our own, Why should there be so much listlessness, and so many failures, in a pursuit into which most children enter with the greatest zeal? In the hope that a few hints on this subject will be acceptable to many of our readers, we purpose devoting a few columns to the matters connected with it.

Let us begin by inquiring,—At what age are children capable of taking interest in gardening?

I answer, as soon as they are strong enough to handle a tool, or transplant a seedling. I have seen the garden of a little boy, seven year's old, as neat and flourishing as could be desired. If my memory serves me, young Beattie was still younger, when his father, by secretly sowing his name in mustard seed, taught him the lesson, that every effect must have a cause. I do not mean to assert, that at this early age a child is able really to work his ground, or even to arrange his plants properly. All that is meant is, that he is

capable of deriving both pleasure and instruction from the possession of a plot which he feels to be peculiarly under his own care. The little boy who, returning from a walk, runs to you with his hands full of Violets or Primroses, exclaiming joyfully,—“Look, mamma, at my pretty flowers!” is a florist in the bud. I am not the only lover of flowers who can trace his interest in them to the time when he gathered Buttercups and Daisies in the fields around London, and

learnt, upon a mother's knee, my first lesson in vegetable physiology by examining a French Bean. A strong spirit of inquiry is exhibited as soon as the tongue can lisp a question. By encouragement and patient explanation, this gift of nature may ripen into that taste for scientific investigation which is daily adding to our stock of knowledge, and is, at least, highly conducive to the formation of habits of thought and observation.—E.

BERBERIS FORTUNII.

(MR. FORTUNE'S BERBERRY.)



The following history of this plant is from the pen of its discoverer, Mr. Fortune:—

“This species is an evergreen bush, with pretty pinnated and serrated leaves of a dark green colour, and grows generally from two to four feet high in the north of China, where it flowers in the autumn months. It produces its flowers both from points of the young shoots and from the sides of the old stems; the spikes are short, generally six or seven together, and the colour of the flowers is yellow, which contrasts well with the deep green leaves.

“It was found in a nursery garden near the city of Shanghai, in the north of China. In all probability it is an inhabitant of those provinces which are several degrees farther north than Keangsoo, in which Shanghai is situated, for it is extremely rare in this part of China, and evidently not indigenous to it. If this be the case, there can be little doubt that it will be perfectly hardy in Europe, and

will be a very nice addition to our collection of hardy evergreens.

“It will grow well enough in any common garden soil, and, I dare say, will be found to be easily propagated either by cuttings or layers. It will be a good plant for a rock work, or for a small neat garden where large straggling shrubs are unsuitable.”—*Horticultural Society's Journal*.

It reached England in the April of 1846, and has proved, as anticipated, hardy in this country. It is called by the Chinese *Che-wang-chok* (Blue and Yellow Bamboo), merely because the leaves are bluish-green, the flowers yellow, and “the stems have a slight resemblance to those of the Bamboo.” It is apt in this country to acquire a nakedness of stem, but then *Berberis aquifolium* sometimes does the same. We incline to think this arises from deficient pruning, for in China, Mr. Fortune says, it is “particularly valuable, owing to its neat, compact habit.”



John Smith

THE Royal Garden at Kew has now for three-quarters of a century possessed a reputation greater, perhaps, than that of any other Botanic Garden in Europe. With it are associated the names of men whom the country delighted to honour, and whose fame is as lasting as the science which they so highly adorned. Among these may be mentioned Sir Joseph Banks, Solander, Dryander, William Aiton, Bauer; and as collectors, Masson, the brothers Allan and Richard Cunningham, Bowie, and numerous others of by-gone days; while we have still among us the highly-respected name of Sir William Hooker, his son, Dr. Hooker, and

Dr. Leeman. But there is another who has long been connected with this garden to whom much is due, and of whom it may be truly said, that but for his thorough practical knowledge, and devotion to the charge intrusted to him, the vast collection of plants, which existed at Kew in 1839, might long ere then have been numbered with the things that were. It is to MR. JOHN SMITH, with whom, we have no doubt, many of our readers are personally acquainted, that the country is now indebted for the preservation of those very plants which were brought home by Captain Cook and Sir Joseph Banks, and who, labouring under many disadvantages, preserved, for many years, in health and vigour, the finest botanical collection of living plants which was ever gathered together in any establishment. Our readers will, therefore, we trust, appreciate the service we this week render in presenting them with the portrait and memoir of this "thoroughly scientific botanist and gardener."

Mr. Smith was born in the parish of Aberdour, in Fifeshire, on the 5th of October, 1798. His father was at that time gardener to Mr. Stewart, of Hillside, which situation he left, when Mr. Smith was about four years old, to become the gardener of Thomas Bruce, Esq., of Grangemuir, where he formed a new garden, and did much to convert a moorland into a valuable and productive estate. When old enough, Mr. Smith was sent to the parish school of Pittenween, where he received the education usual in the parish schools of Scotland; and by paying the extra fees he was instructed in geometry, mensuration, and land-surveying. His holidays and harvest vacation were occupied in field work, the proceeds of which contributed to pay for his education. At an early period he determined on being a gardener, and at the age of thirteen he left school, and became a garden apprentice to his father, with whom he remained four years. During his apprenticeship he was seized with an affection of the knee joint, which for some time threatened to stop his career as a gardener; but his fondness for the pursuit, and his garden of native plants which he had by this time collected, proved too much for the advice of friends, and he determined to follow out the natural bent of his inclinations. His early knowledge of Botany was imparted to him by his father, who also had a great taste for plants, and who had attained considerable acquaintance with them, while employed in the Edinburgh nurseries; but his craving for something more than his instructor could communicate was so great, that with the aid of the village bookseller, a copy of "Lee's Introduction to Botany" was procured from London. Mr. Bruce presented him with "Abercrombie's Gardeners' Calendar," and with what Catalogues of Plants he could procure, he soon made himself acquainted with upwards of 400 species, and was enabled to give the Linnæan Class and Order to which they belonged.

At the age of seventeen Mr. Smith left Grangemuir Garden, and went to Raith, near Kirkcaldy, a place at that time celebrated throughout Scotland for its collection of plants; but, being the youngest journeyman, the heavy work of the garden devolved upon him, and he had no opportunity of carrying out his favourite pursuit. Here he remained for one year, and then went to Donibristle, the seat of Earl Moray, which was also a celebrated school for young gardeners. The pleasure-ground extended over twenty acres of short grass, to keep which there were seven young men employed in mowing, during the summer season, from four o'clock till eight every morning. At Donibristle he remained one year, and left for Caley House, in Galloway, a distance of one hundred miles, which he travelled on foot. At this place he found better means of studying plants; but, after a lapse of a year, and through his father's intimacy with the late Mr. McNab, of the Edin-

burgh Botanic Garden, then situated in Leith Walk, he entered that establishment. Here he met with minds congenial to his own, and made great progress in a knowledge of botany, which was greatly assisted by the privilege of attending the Professor's course of lectures. It was at this time that he first heard of the Natural System of Botany, and, obtaining from Mr. McNab the loan of "Jussieu's Natural System," he copied from it the chief characters of the Orders, and the names of the genera belonging to each. This, with the examples of many exotic genera in the garden, did much to impress on his mind a knowledge of the Natural System. His acquaintance with native plants, also, became much enlarged, especially with the Cryptogamia; and any spare time he could procure was occupied in long journeys, collecting Mosses and other rare plants.

Although at this time he was earning but nine shillings a week, he managed to purchase paper for a large collection of specimens, and a copy of Dr. Smith's "Compendium of the British Flora." This work being in Latin, with the aid of a borrowed Latin Dictionary, and his previous knowledge of botanical terms, he soon mastered the botanical descriptions. In 1819 he returned home for the winter, where he put himself under the tuition of a country schoolmaster, who had great practice in land-surveying; and thus he obtained a good knowledge of that necessary branch of a gardener's education.

In March, 1820, Mr. Smith returned to Edinburgh, and, being desirous of proceeding to London, he obtained from Mr. McNab a letter of introduction to the late Mr. W. F. Aiton, at Kew. He was at once placed in the Royal Forcing Garden, at Kensington, where he remained two years; and although this branch of gardening was not in accordance with his previous studies, he, nevertheless, profited much by the practice he there obtained. In March, 1822, Mr. Aiton removed him to the Royal Botanic Garden, at Kew; and in the following year he appointed him foreman of the propagating department and of the new plant collections. The latter, in those days, consisted chiefly of the very numerous new plants sent home by Cunningham and Bowie, from Brazil, New Holland, and the Cape of Good Hope, and the extensive collections of Dr. Wallich from India. In 1826, Mr. Smith was on the point of leaving Kew, with the view of obtaining a more lucrative situation, but his services had already been so highly appreciated that Mr. Aiton determinedly opposed the step he was about to take, and induced him to remain, by giving him a house in the garden, with an advance of salary. At this period, and for many years previously, there had been few alterations or improvements in the garden. It became necessary, however, to repair some of the houses, and Mr. Smith seized every opportunity for improving and modernising the structures, so as to make them more conducive to the healthy condition of the plants.

On the accession of William the Fourth the garden was enlarged; and, in 1836, the Grecian conservatory was erected; and well do we remember the sensation which was created in the gardening world on the completion of that structure, which, however, is now far eclipsed by what have since been erected. About this period, we have a distinct recollection of considerable excitement taking place in the garden with respect to naming the plants. Mr. Aiton was strongly opposed to such a course; and Mr. Smith, much to his honour, was as strong in favour of it. His object was to make the collection useful and instructive; and knowing the way along which he had himself travelled before he acquired the position and knowledge he had, and the hill of difficulties he had surmounted, he liberally wanted to diffuse that knowledge he had attained, so that it might be beneficial to those, who, like himself, had to make their

own way in the world; and in no part of the management did Mr. Aiton and he differ more essentially than in the naming of the plants,—Mr. Aiton's plan being to have them numbered, and the names (with a corresponding number), inserted in a book. In 1828, Mr. Smith re-arranged and corrected the collection of Grasses, which was then very extensive; and these he was allowed to name, with east-iron labels made on purpose, on which the botanical names were printed at length,—and these were the first ever used in the garden. The Succulent plants he served in the same way.

Shortly after the accession of her present Majesty the Botanic Garden came under public censure, as being unworthy of the nation. It was then under the control of the Lord Steward's department, and he who held the office at the time propounded a scheme for disposing of the Botanical collection, and converting the houses into Vineries; and so nearly was the project carried into effect, that instructions were given to prepare young Vine-plants. The Fates, however, decided otherwise; and on the second day after this order was given, a short, but strongly-worded, letter appeared in *The Times*, which led to questions being put in both Houses of Parliament, and which were answered by Government, denying that there was any such intention of breaking up the Botanic Garden. The writer of that letter deserves well of this generation. There are several who lay claim to the authorship of it; but we know that the *real author* is too modest to make a public boast of it. A stop being thus put to the Vine-growing and the extinction of the Botanic Garden, in 1838 a Commission was appointed to determine what should be done with the Garden. Fortunately for Botany, as a science, Dr. Lindley was appointed chief of the Commission; and the Report being in favour of the continuation of the Botanic Garden under entirely different management, the expenses of the Garden were transferred from the Queen's Household to the Commissioners of Woods and Forests; the retirement of Mr. Aiton was effected; and, in 1841, Sir William Jackson Hooker was appointed Director. Sir William, shortly after his appointment, and fully appreciating the worth of Mr. Smith, used his influence in obtaining for him the appointment of Curator. We need not dwell on the great additions and improvements that have taken place under this new management. Kew Garden is now worthy of the great nation to which it belongs; and the nation may justly be proud of such an establishment, and with such men at the head of it.

As a botanist, Mr. Smith is equally as celebrated as he is as a gardener. For a long period he has devoted his time and attention to the study of Ferns; and, by 1810, he had accumulated one of the richest collections of this tribe of plants which is to be found in this country. He drew up an account of the genera, which was read before the Linnæan Society, in 1840, and published in "*Hooker's Journal of Botany*" in the following year. He also made observations on the cause of the disease called the Ergot, in Rye and other grasses, which were published in the "*Transactions of the Linnæan Society*," of which he had been elected an Associate; and in August, 1853, he was chosen a Member of the *Cesareæ Leopoldina-Carolinæ Academiæ Naturæ Curiosum*,—the academical name of the late celebrated Pteridologist "Kunze." *Pteridology*, some may be glad to be told, is the Botany of Ferns.

Mr. Loudon, in 1836, when remarking on the necessity of a change in the management of the Botanic Garden said, "Whatever changes may take place, we trust the merits of that modest and unassuming man, and thoroughly scientific botanist and gardener, Mr. Smith, will not be forgotten. If Mr. Aiton resigns, Mr. Smith is, we think, the fittest man in England for the Kew Botanic Garden;" and Sir William Hooker pays a just

tribute, when he says the Garden would have been much worse, "but for the truly parental affection cherished towards it by Mr. Aiton, and the able exertions of his foreman (now the curator) Mr. John Smith."

PHOSPHATE OF LIME.

THE introduction of the salt, known to chemists as the phosphate of lime, affords one of the most noticeable instances of the good results of applying science to the cultivation of the earth. This improvement, like all other advances in agriculture, and its sister science, horticulture, has been the work of years; more than half a century has elapsed, since the manures which have the phosphate of lime for their chief fertilising ingredient first attracted the notice of mankind; and when some experimental farmers of the north of England first made trial of the bones of animals (in which this salt abounds), they, as might be expected, made sundry grave blunders in the mode of applying them; they used them unbroken, they merely spread them over the surface of their pastures. Thus employed, the application was a failure; the bones decomposed far too slowly to be of any apparent benefit, and their use was condemned.

Some years elapsed before bones were crushed previously to their being thus employed, and before it was known that they then fermented, and finally and quickly became reduced to a valuable fertilising powder. Then, however, the demand for bones, especially for turnip soils, became very great. Our islands, and then the north of Europe, were searched for them; thousands of tons were annually imported into the port of Hull; finally, more distant countries were laid under contribution, and now many large cargoes are brought (after being previously calcined) from the shores of the La Plata. These last named are the bones of the cattle which once were killed only for their skins, were next considered equally valuable for their tallow, and now for their bones. But even when the use of bones was firmly established, and, indeed, for years afterwards, the popular explanation of their fertilising power was inaccurate, and worse than useless. Their value was attributed entirely to the grease and cartilage with which they abound.

When, however, the Cheshire farmer began to find out that the refuse bones of the bone boilers were as useful as the fresh bones, and when Liebig, Daubeny, and others, further proved that the phosphate of lime of bones possessed a very considerable value as a manure; and when they, moreover, found that this phosphate of lime was rendered still more valuable by being converted into super-phosphate of lime; when these things were shown, a new and a more correct theory was adopted; it then became evident that the phosphate of lime of the bones was their most valuable portion; that this salt was, in fact, the direct food of the plants to which it can be successfully applied. Then came an enormous demand for the phosphate of lime, which all the recently deposited bones of the New World were incapable of satisfying.

The manufacturing chemists were thus at a loss for materials, when Henslow came to the rescue, by suggesting the employment of the phosphate of lime found in the coprolites and fossil bones of the Suffolk Craig, the Blue Lias of Dorset, and the Estuary of the Severn.

The introduction of these coprolites into agriculture affords one of the most remarkable instances on record of the application of the remains of one generation of living beings to the satisfying of the wants of far distant ages. It was, indeed, a proud achievement of science. As George Canning once proudly and exultingly told the House of Commons, when alluding to a national difficulty, "I thought of the New World, and I brought its southern republics into existence, as a counterbalance to the old States of Europe," so might Henslow say—"I, too, amid the difficulties of modern farming, thought of the inhabitants of the Old World, and I suggested the use of their remains for the enrichment of the soil which supplies food for the present tenants of the earth."

But it is, perhaps, to poor Professor Buckland, that the merit is due of bringing coprolites into general notice. He first made their existence generally known in his *Bridge-water Treatise*, where he traces their discovery. "It was,

indeed, impossible," as he says, very truly, "to have seen the large apparatus of teeth, and strength of jaws in the Ichthyosauri, and in the remains of other gigantic carnivorous animals, without concluding that animals furnished with such powerful instruments of destruction must have used them freely in restraining the excessive population of the ancient seas." This inference was fully confirmed by the discovery within their skeletons of the half-digested remains of fishes and reptiles which they had devoured, and by the further discovery of coprolites, that is, of fecal remains in a state of petrification, dispersed through the same strata in which these skeletons are buried. The state of preservation of these very curious petrified bodies is often so perfect as to indicate not only the food of the animals from which they were derived, but also the dimensions, form, and structure of their stomach and intestinal canal.

In the Suffolk Craig formation, in the blue clay around Cambridge, and on the shore at Lyme Regis, these coprolites are so abundant, that they lie like Potatoes scattered in the ground. In the Lias of the Estuary of the Severn, as in the Craig, they are similarly disposed in strata of many miles in extent, and mixed so abundantly with teeth, and rolled fragments of the bones of reptiles and fishes, as to show that this region, having been the bottom of an ancient sea, was for a long period the receptacle of the bones and fecal remains of its inhabitants.

Still more recently, attempts have been made, and not unsuccessfully, to import the mineral called the Phosphorite, or Apatite, which is nearly pure phosphate of lime, and several cargoes of this stone were imported from Norway last year. Great beds of this mineral also exist in Spanish Estremadura, and in other portions of the globe, but in places unfortunately too distant from water carriage to be available.

By the manufacture of super-phosphate of lime, these mineral substances are first reduced by machinery to a fine powder, and they are then treated with sulphuric acid,

which takes a portion of the lime from the phosphate of lime, and leaves the phosphoric acid in excess.

Of the extent to which the super-phosphate of lime is employed as a manure for Turnips, no farmer need be informed. We might instance the extent to which guano is used as a manure, as another case of the extensive use of phosphate of lime by the cultivator, but it might be fairly urged, that guano is chiefly valuable, used in the ordinary very limited proportions, for the ammoniacal and other salts with which it abounds.—C. W. J.

THE SUBURBAN VILLA, AND COUNTRY HOUSE.

(Continued from page 447, Vol. XI.)

No. 3.

THE APPROACH, &c.

THE manner in which the entrance from the main road is effected, is, in very many instances, not only far from agreeable in appearance, but is also highly objectionable on the score of convenience. The gate, especially where the high road is narrow, should be placed at a considerable distance back from it, so as to allow ample room for vehicles to turn in when arriving from either direction. The great inconvenience arising from the gate being placed close to the side of the main road is nowhere so apparent as upon the side of a tolerably steep hill. In going up the hill (I am alluding to the high road) the entrance is effected tolerably easy; but in coming down the hill it is quite another affair. The usual mode of obviating this difficulty is by placing two gates, one at the best point for entrance in coming up the hill, the other in going down. This, in a small property, is always productive of great inconvenience, and it will generally be found that one gate, properly placed, will entirely obviate the necessity for two. A multiplicity of roads in a confined space not only intrude upon the privacy of the grounds, but they occupy space which can often be devoted to better purposes. Fig.

6 and 7 are plans of two kinds of entrances, the former common, and very objectionable; the latter, one that is worthy of adoption. It is both handsome and convenient.

As a general rule, two lodges and gates at short distances from each other, on the same line of road, are not only not requisite, but, from affecting an undue importance, are in bad taste. In very extensive grounds, bounded by public roads on two or three sides, a handsome lodge may, of course, with great propriety be erected at convenient points for entrance on either side of the estate. But where a small property is bounded by a public road only on one side, and that, perhaps, for no great distance, two entrance gates and lodges ought not be erected; or, if so, one should be prominent and handsome, making the principal line of approach, the other subordinate in every way; in fact, the back road.

The mode of approach to very many suburban residences is likewise open to grave objection. These houses are generally placed at a short distance from the main road, having their principal point parallel to it, the space between the house and the road being chiefly occupied by a wide coach-road, for which there are two gates. Such an arrangement is, in the main, to be condemned *in toto*. Instances may, of course, occur where two gates would be more convenient than one; but I here dwell upon general principles only, and upon such ground they are, as I conceive, totally inadmissible. By their introduction the greater portion of the space in front of the house is taken up or intruded upon; and when, as is often the

Fig. 6.

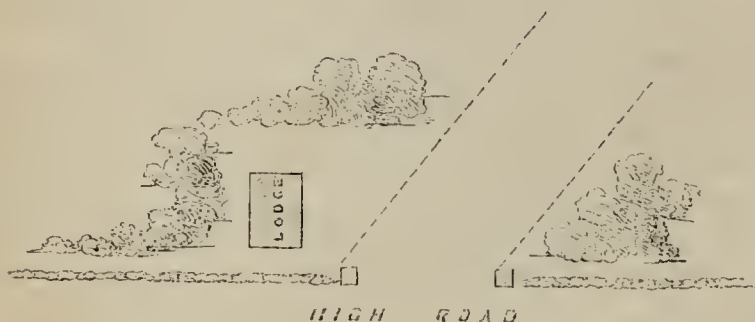
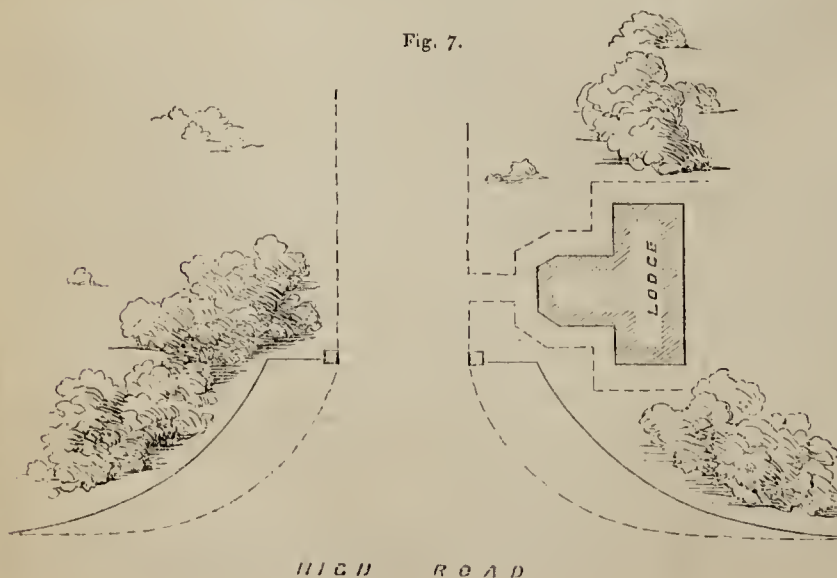


Fig. 7.



case, the ground in front is all, or nearly all, that can be devoted to flowers, the possibility of having a rod or two of private garden is wholly out of the question. To such houses I would, as a general rule, have but one carriage entrance, and where the space is very confined, and the distance from the house to the main road only a few yards, I would have none at all. The idea of placing two heavy gates within a rod or so of the windows of a residence, and then covering the space between the front of the house and the main road with gravel, and calling it a carriage drive, appears to me ridiculous. It is, however, of very frequent occurrence; and it is no exaggeration to say, that in many instances where a carriage is at the door, the horses heads are at one gate, and the wheels of the vehicle at the other.

And, then, the style of gate, too, which is commonly met with in such places! Appropriateness, most assuredly, never, or but very rarely, can be recognised in the design. A prevailing character is one which partakes largely of the ecclesiastical; or, perhaps, it would be nearer the truth to say, that very many such gates, especially those attached to recently-erected houses, are hybrids, partaking of the conjoint styles of a field-gate and a mediæval church-door; and this, perhaps, at the entrance of a villa affecting the Grecian style of architecture.

When the space between the front of the house and the main road is very confined, it would certainly be much more appropriate if treated as part of the garden, with a simple pathway leading from the gate to the entrance-door. But if a covered way were deemed necessary to compensate for not having the carriage drive directly to the door, a modification of the conservatory may be introduced. Such a structure would form a very agreeable addition to a residence, and would at all times furnish a delightful promenade. It could be kept gay with flowering-plants all the year through, like an ordinary conservatory, or be merely used as a receptacle for Orange-trees and Camellias. In either case, there would be much scope for the exercise of taste in the arrangement, and of consequent gratification in contemplating the result.

But to return to the subject of entrance lodges. Much has been said and written with regard to the style in which they should be built, whether corresponding with the residences to which they belong or not; and, as a natural consequence, where a great diversity of opinion exists on any subject that admits of practical illustration, many absurdities have been committed. Sometimes we find two brick boxes, each of some six or eight feet square, one on either side of the gate doing duty as a lodge. In other instances, mimic castles, with towers and battlements, and even the imitations of the loop-holes for musketry, glazed as windows, have been adopted, and this, by the way, is a style of architecture largely patronised. Then, again, we have lodges of no particular style at all, and one is at a loss to know how to describe them, except by saying that they are made up of an infinity of roofs, high chimney-pots, and projecting verandas, supported by rustic pillars, covered with creeping plants, purposely placed so as to darken all the windows. In default of any of these, the patron of severe simplicity ornaments his entrance with a diamond edition of a plain labourer's cottage. But however much the majority of lodges may differ in external appearance, they generally agree in their interior arrangements, by being as confined and inconvenient as possible. In fact, the object aimed at, in the majority of lodges, would seem to be to make their exteriors as fantastic as possible, and to forget they are to be inhabited by human beings. In a word, they lack one quality rather necessary to them as dwellings—that of being fit to live in.

It has been frequently urged that the entrance lodge should be of the same style of architecture as the house to which it leads the way; this, however, I conceive, requires considerable qualification. If we consider the lodge in its original aspect, as the porter's residence attached to a mansion in the feudal times, it is obvious enough that it should correspond with the building of which it formed a part. But now that an entire change has come over the domestic arrangements of the inhabitants of such a mansion, and the porter's lodge becomes, not only a detached building, but is removed, perhaps, a mile or two distant, there can be no necessity for adopting a style of architecture

which rarely admits of convenient arrangement in the confined space of a labourer's cottage, which a modern lodge in reality is. If the style of the mansion is such as to admit of a convenient cottage being selected in accordance with it, there can, of course, be no objection to adopting it, but it need never be imperative, except in occasional instances where a sort of compromise is made between the ancient porter's lodge, and the modern lodge entrance, such as are occasionally met with attached to old or rebuilt mansions in which the ancient arrangement is preserved. Then a uniformity of style should, of course, be a recognised principle.

A lodge should be designed in accordance with the purpose for which it is intended, *i.e.*, a residence for a person to attend to the gate. It should be tasteful in exterior and convenient within. Very few of what are called ornamental cottages combine these two essentials. Convenience is almost invariably sacrificed to ornament. A style of cottage architecture has yet to be adopted, in which the useful and the ornamental shall combine, without in any way being antagonistic to each other.—G. LOVELL, *Landscape Gardener, Bagshot.*

NEW PLANTS.

NYPHÆA AMAZONUM (*Amazonian Water-Lily*).

A very pretty, night-flowering species of Water-Lily. Flowers yellowish-white, and fragrant. It is a native of Jamaica. (*Botanical Magazine* t. 4823.)

ÆSCHYNANTHUS FULGENS (*Flame coloured Æschynanthus*).

Natural Order Gesnerworts (*Gesneraceæ*), Didymia Angiospermia of Linnaeus. This stove species is a native of Moulmein, whence it was sent to Messrs. Veitch by their collector, Mr. T. Lobb. It flowered here in October 1855, and is very beautiful, especially when grown suspended in a wire basket. Flowers yellow and scarlet. (*Ibid.* t. 4891.)

LAPAGERIA ROSEA, var. ALBIFLORA (*White-flowered variety of L. rosea*).

Natural Order Philesiads (*Philesiaceæ*), Linnean Hexandria Monogynia. This was introduced in the Jardin des Plantes, at Paris, by M. Abadi, from Chili. Flowers cream-coloured. Like the species of which it is a variety, we think it will flourish in a moist, cool greenhouse. (*Ibid.* t. 4892.)

TECOMA FULVA (*Yellow and crimson Tecoma*).

This is the *Bignonia fulva* of some botanists. It belongs to the Natural Order Bignonids, and to *Didymia Angiospermia* of Linnaeus. It is a native of Peru, and was bloomed by Messrs. Veitch in November 1855. It is a very handsome stove plant. (*Ibid.* t. 4896.)

DENDROBIUM BIGIBBUM (*Two-spurred Dendrobe*).

This Orchid has very handsome, deep lilac-coloured flowers. It bloomed at Messrs. Loddiges in November 1855. Dr. Thomson found it on Mount Adolphus, Torres Straits, on the north-east coast of New Holland. "Being a native of the tropics, it requires greater heat in cultivation than most Australian Orchids." (*Ibid.* t. 4898.)

APHELANDRA VARIEGATA (*Variegated Aphelandra*).

Natural Order Acanthads (*Acanthaceæ*), *Didymia Angiospermia* of Linnaeus. A beautiful stove plant, native of Brazil, introduced by Messrs. Veitch. Flower-spikes brilliant orange-red, from which issue bright yellow flowers. Leaves large, deep green, and striking. (*Ibid.* t. 4899.)

CYPRIPEDIUM PURPURATUM (*Purple stained Lady's Slipper*).

"It is a lovely Orchid, whether the size and beauty of the flowers, or the mottled foliage be considered. It is a native of the Malay Archipelago, and flowers during November in a damp stove." (*Ibid.* t. 4901.)

EUCALYPTUS COCCIFERA.

(COCCUS-BEARING GUM TREE.)

THIS belongs to the Natural Order of *Myrtle-blooms* (Myrtaceæ), and to *Icosandria Monogynia* of the Linnæan System. In Devonshire and sheltered situations along our south coast it has been found hardy, but in most districts of England it requires a south wall and winter protection.

It is a native of the highest mountains in Van Diemen's Land, where it is a small tree of about ten feet high; but at Exeter, in Mr. Veitch's garden, it is double that height. It was discovered by the late Mr. Lawrence, who absurdly gave it its specific name from observing that its foliage was infested with a *Coccus* or scale insect. Its leaves, and, indeed, the whole plant, is very glaucous. Its petals are purple, but little of them is seen owing to the abundance and length of its lemon-coloured stamens.

Mr. Smith, of Kew Gardens, says it is easily raised from seed, which, like those of the Myrtle-blooms generally, do not readily lose their vitality by the sea voyage. The seeds vegetate quickly when placed in moderate heat, and when the seedlings are about half-an-inch high they should be transplanted into pots singly. If intended for growth in the open air they should not be long kept in small pots, for the tap-root, by being confined, becomes coiled, thickens with the growth of the plant, and ultimately, owing to its rapid growth and dense foliage, the tree is unable to resist high winds.—*Botanical Magazine*.



CULTURE OF THE AMERICAN CRANBERRY.

IN my rambles, I am sorry that I so seldom fall in with my old friend and favourite, the American Cranberry. It surely must be from the want of not knowing how little care and attention this valuable plant requires in cultivation, and also in preserving its fruit; or, perhaps, rather, in not having tasted and found out its good qualities, that so rarely is it cultivated. Be this as it may, I will, with your permission, place before your readers what I know about it.

Many years ago, when gardener at Hylands, near Chelmsford, in Essex, I had quite a hedge of the Cranberry,—at least 300 feet in length, where it annually produced bushels of its useful fruit. The plants were treated as follows:—

Supposing any one in possession of a large tank, pond, or lake, and that fifteen inches in width, by fifteen or eighteen inches in depth of peat, are placed along the margin of either of the above where you wish to grow them, and where the water-line will reach within one foot of the surface;—plant the Cranberries in the centre of the peat, and give them water when necessary in dry weather, till such time as their roots reach the water in the tank, &c., after which they will drink when they want it without troubling you. If grown purposely for fruit, they ought to be trained on a wire trellis, at least two feet in height (the system practised at Hylands), which, if trained over, they will soon cover and grow down to the water's edge. But where there is scope to grow them in quantity this is unnecessary; for, if allowed to grow naturally, they form beautiful masses along the margins of

lakes, as their distinct and peculiar foliage contrasts and harmonizes pleasingly with variegated Periwinkle, Creeping Junipers, *Polygala Chamæbuxis*, *Gaultheria procumbens*, &c.

Let me add, no fruit is so easily preserved. All that is required is to gather the berries when dry, place them thinly on trays for a few days, and then to put them in dry bottles,—storing them in a cool cellar; and as long as your supply lasts, you need not want for one of the best of tarts. As far as my taste goes, John Bull may have his roast beef and plum pudding; Sandy, his porridge; and Patrick, his potatoes; but a piece of Turkey, and a nice Cranberry tart for me.—D. FERGUSON, *Stowe, Buckingham*.

CEMENT FOR ROOMS.—A recent invention by M. Sorel promises to be of great advantage to plasterers and workers in stucco. He stated that the invention consisted in the discovery of a property possessed by oxychloride of zinc, which renders it superior to the plaster of Paris for coating the walls of rooms. It is applied in the following manner:—"A coat of oxyd of zinc mixed with size, and made up like a wash, is first

laid on the wall, ceiling, or wainscot, and over that a coat of chloride of zinc applied, being prepared in the same way as the first wash. The oxyd and chloride effect an immediate combination, and form a kind of cement, smooth and polished as glass, and possessing the advantages of oil paint, without its disadvantages of smell, &c." The inventor further suggests the employment of oxychloride of zinc as a paint for iron, and also to stop hollow teeth, for which its plasticity and subsequent hardness and impenetrability to the moisture of the mouth renders it particularly applicable.

GARDEN HEDGES.

ALTHOUGH it is not always in the power of the cottager to select his own garden hedge, yet, a little perseverance, well-timed, will frequently enable him to accomplish that object; and there is nothing of more importance to the general appearance of his garden than a regular, well-kept hedge; and however well the interior may be kept, its beauty is much diminished if it be surrounded by a sort of nondescript fence of live and dead stuff of various kinds, intermixed with rank and troublesome weeds. Now, as this latter description of fence prevails very often to a great extent, we would advise the cottager, whose prospects of remaining are tolerably good, to see about altering it for a nice Quickset-hedge, and he will often find the difficulties in his way fewer than he expected.

Let it be observed, that when an old hedge is taken down with a view to make a new one, the ground ought to remain, at least, one year vacant, in order to freshen, and be in a fit condition to plant the new hedge in. A Quickset-hedge may then be planted in its proper place, and, being properly protected, kept clean, and judiciously pruned, it will speedily become a good fence, provided the ground be tolerably fertile and other circumstances favourable.

In some cases, a Holly-hedge is preferable to a Quickset one; but not every soil and situation are suitable to this beautiful evergreen. Privet, which is, perhaps, the most rapid-growing of any thing, is not sufficiently strong to resist cattle and other intruders, but it bears cutting well, and, when mixed with Quick, soon forms a useful hedge.

After all, there is nothing like a good Quickset for general purposes; and I would also advise its being planted on the level ground, and not on a raised mound, or ridge. Neither ought there to be a ditch by the side of it, except in some particular cases; for where the ground is damp it may be rendered equally dry with proper draining in the usual way, and a ditch is so much lost ground, besides being an untidy object, and likely to produce more weeds than any thing really useful.

In some cases there is an anxiety on the part of the occupant to make the hedge a source of profit as well as useful and ornamental, by planting some productive, hardy fruit-trees in it; the most useful and most common being the *Damson* and some other hardy Plums; but these must not be allowed on the south side of the garden; neither is it advisable to have them on the side next a public road, as they are temptations not in every case resisted by the juvenile members of the neighbourhood. If a few *Damson*-trees be planted, let them be kept from hanging too much on one side, and let the stem show itself clear above the top of the hedge. In this case they may do no great harm.

Where a cottage garden adjoins a wood, or coppice, it is not unusual to find the hedge composed of the mixed trees which form the coppice, as *Hornbeam*, *Maple*, *Hazle*, *Willow*, and other things of a miscellaneous character, entangled in such a way as to form a useful fence in its way, but untidy for a garden, as there

is generally a ditch necessary to assist in making this heterogeneous mixture a sufficient fence; therefore, where practicable, I would advise this fence to be abolished, and a nice Quickset planted instead, at the same time taking care that the trees and bushes behind it are not allowed to encroach upon it to weaken or injure it too much; and most landlords will, on being applied to, remove over-hanging trees that injure the well-cultivated garden of an industrious cottager, except in particular cases, where the tree cannot be taken away without injury to other things.

When, from accident or other causes, a Quickset-hedge becomes thin, or a gap appears at a certain place, do not cram in a bundle of dead bushes, or thorns, into that place, but secure it with as few pieces of stakes as can be done, at the same time drawing the live wood together in such a way as to form a perfect hedge again when it has grown a little. Stuffing in a bundle of dead wood increases the gap by preventing the young shoots occupying it. When plants actually die off they must be replaced by new ones, only exchange the soil for some equally good, which has not supported deciduous timber or shrubs. In fact, soil of the garden will be best, and the result will be satisfactory. J. ROBSON.

DEATH OF JOHN REEVES, ESQ.—It is with deep regret that we have to announce the death of that ardent horticulturist and estimable man, JOHN REEVES, ESQ., of Clapham. This event took place on the 22nd inst., in the eighty-second year of his age. Mr. Reeves was for a long series of years tea-taster to the East India Company in China, and it is to him that this country is indebted for very many of the most beautiful and interesting of the Chinese plants. He first drew attention to the *Chinese Primrose*, a circumstance of itself sufficient to entitle him to the gratitude of all who are interested in Horticulture. It is also in honour of him that *Spiraea Reevesiana*, and many other plants with the same specific name, are called. Mr. Reeves was a Fellow of the Royal, the Linnæan, the Horticultural, and the Zoological Societies, and his loss will be much felt by those whose privilege it was to know or come in contact with him. Upon referring to our notes, we find that Mr. Reeves first commenced importing plants from China as long since as 1816. In 1820, he sent to England twelve new varieties of *Chrysanthemum*, and brought others hither in 1824. In 1821, the *Chinese Primrose*, in consequence of his sending a drawing of it, was introduced by Captain R. Rows, and presented by him to his relative T. Carey Palmer, Esq., of Bromley, in Kent. In 1822, Mr. Reeves sent to the Horticultural Society the Double Chinese Cherry, *Prunus serrulata*, and the Chinese Plum, *Prunus salicina*.

PLANTS THAT MAY BE IN BLOOM IN MARCH.

(Continued from Vol. XI., page 463.)

RUELLIA FORMOSA.—This beautiful Acanthad, from Brazil, next door neighbour to a *Justitia*, is not grown in proportion to its merits. The winter and spring months are the periods when it shows to most advantage. In summer it is liable to the Red Spider, unless kept in a moister atmosphere than would suit its flowering, though just the thing it wants for growing. It produces, for long periods, its scarlet blooms when not more than from nine to fifteen inches in height. It is easily propagated by cuttings in sandy earth, under a glass in a hotbed, and grows freely in loam and peat. Cuttings taken off by Midsommer make nice, bushy plants before winter; and, therefore, unless where large specimens are

desirable, the plants may be thrown away when done flowering. A close, cold pit will grow them very well from July to the middle of October, when they should be moved into the plant-stove, and will there bloom freely in a temperature of 60°. Keeping young plants is the best means for beating the Red Spider. I have not seen this fine old plant for some time, but, in my younger days, I have grown many a dozen.

SIPHOCAMPYLOS MICROSTOMA.—Without examination, a person might suppose this to be a larger and brighter-coloured *Ruellia*. The colour is a bright crimson-scarlet, as different in shade to the *Ruellia* as the *Salvia splendens* is different from the *Salvia fulgens*. It belongs to the Lobeliad group, and blooms freely in the winter and spring months. The habit of growth is rather straggling if not well stopped when young, and though evergreen in the stove, it is more of a herbaceous than a shrubby character. If kept cool, most likely it would die down like a common herbaceous plant, and shoot up again like *S. bicolor*. This treatment would not do for winter and spring flowering, for which it is a good acquisition. When done flowering, or when tired of it, a month or six weeks hence, prune it back, allow a short season of rest, and when budding afresh repot, and keep growing in a moist atmosphere, and a temperature 60° to 70°. Give more air and full light, in a cold pit or open situation, in September, and house in the stove by the middle of October. Cuttings strike freely in sandy soil, under a bell-glass, in a hotbed. Loam and peat will suit it well.

S. MANETTI-FLORUS.—This, which is likewise a native of New Granada, producing red and yellow flowers, would, I presume, bloom at this time, under similar treatment, but I have not had the chance of trying it.

STRELITZIA OVAIA AND S. REGINÆ.—Some time ago, I gave a short outline of the management of *S. reginæ*. I might have forgotten to mention them in this place, if I had not seen both in bloom at Stockwood, the other day, each in a middle-sized pot, on a platform. *Ovata* is very pretty, and, like the Musads in general, the flowers are singular, but for real beauty, *Reginæ* is still the queen. Few flowers will equal the brilliancy of its outer orange petals, and the blue of the centre, like an adder's tongue. This flower itself would furnish a good lesson on the contrasting of colours. Highly refined minds may, and do, relish the shading of colours, and it is right they should enjoy their fancy, and congratulate themselves on their expanded powers of perception. Still, I have strong faith in the next to untought, the almost instinctive feelings of the masses, as to the truly beautiful. Present before them every conceivable shade of orange and yellow, arranged in the most scientific and tasteful manner, and show them, at the same time, a flower of the *S. reginæ*, combining in itself a rich orange, and a still richer blue, and would it require any Seer's vision to foretell their judgment and decision? As mentioned above, this plant can be grown very well in a pot in a plant-stove, set upon a shelf or stage, but when growing in summer, it dearly likes a moist heat and a little bottom-heat. It also does well planted out, where it can have the advantage of bottom-heat. The white scale is a great enemy to it, and must be kept down with soap and tobacco-water. In this respect, growing one, or two, or three shoots in a pot, has the advantage of growing it in a mass, as the collar of the offsets can be examined, and insects dislodged, which it is scarcely possible to do when a number of shoots or offsets are massed together. In either case, the treatment is the same,—as much heat and moisture in summer as would suit a Pine-apple; comparative dryness at the roots in winter, and a temperature averaging 55° to 60°. When heat and moisture are applied after the new year, the flower-stems will soon appear. Loam and peat will

grow it well; and it is generally propagated by divisions and offsets.

ALLAMANDA NERIIFOLIA.—Small plants of this ever-flowering plant look nice at this season, and during winter. Like some of the *Justicias*, it would be difficult to say how often it blooms in the twelvemonth. You prune a little after flowering, and as soon as younger shoots come there are the flowers again. The flowers are small, and rather dirty yellow; but flowers are flowers in the dark months. It is easily propagated from cuttings, and requires the commonest treatment in a plant-stove.

I find the other divisions must wait.

R. FISH.

(To be continued.)

QUERIES AND ANSWERS

GARDENING.

EXHIBITING VERBENAS.

"I am anxious to become a competitor, at a Flower Show to be held early in August, for the premium given for the three best Verbenas. I have in my possession circular trellises, fifteen inches in diameter, and fastened in the pots in an oblique position. I have the following Verbenas in stock:—*King of Scarlets*, *Purple King*, *Mrs. D. Tyssen*, *Mrs. F. G. Cully*, *Mrs. Woodruffe*, *Wonderful*, *Lady Lacon*, *Orb of Day*, *Brilliant de Vaise*, *Arsine Bougard*, *General Changarnier*, *Boule de Feu*, *Ribera*, *Chavertii*, *Ariosto*, *Woodford's Magnificent*, and *Beauty Supreme*. I wish to know—First, which three to select for my purpose. Secondly, What sized pots you would recommend; and, thirdly, What description of soil and treatment generally?—AN AMATEUR SUBSCRIBER."

[Your trellises will answer well for your purpose. To make more sure of the prize, you should grow at least six, for a collection to be exhibited of three different sorts. You have in your list all the best sorts. Your best selection out of them to grow for a prize will be, *Purple King*, *Mrs. D. Tyssen*, *Wonderful*, *Brilliant de Vaise*, *Orb of Day*, and *Arsine Bougard*. You should add Smith's *Alba Magna* as a good white.

The best compost is turfy-loam and decayed leaf-mould in equal parts, with a small portion of peat added—about an eighth.

The size of pots. Repot twice, the last time in pots eight inches wide. Keep them constantly in cold frames, or a pit, till June; then place them out-of-doors where the sun will not shine on them after eleven o'clock for a month; syringe them frequently, and give due supplies of water. If the plants do not grow strong, give a watering with liquid-manure occasionally. Keep them well stopped in, and closely tied to the trellises. Allow no flowers to appear till the first week in July; then allow the strongest buds to advance, and shelter them from sun, wind, and rain for three weeks previously to the show.]

CUTTING DOWN OLD COTONEASTERS.

"Some time ago, one of your contributors (Mr. Beaton, I think) recommended cutting down old plants of the *Cotonaster microphylla* in April; because, by doing so, the plants, instead of creeping on the ground, would throw up shoots, and form a tall, ornamental plant. We have two plants of this kind that are about four years old. Are they too young to treat in the manner suggested?—J. WENTWORTH."

[The four-years old *Cotoneasters* are still too young to "force up" strong shoots after being cut down; but if you want to make upright bushes of them, or get them to run up freely against a house for training, you should not lose a season, but cut them now, or any time "before long;" after that, take special care that the roots are not allowed to "throw up" a forest of contending shoots, like a Raspberry stool cut down. Select three of the strongest shoots, and let them have all the strength from the roots, and keep it; but you may let each of the three divide higher up, until your bush is wide enough to your liking. We never saw it

on one stem, except, perhaps, against a wall; but we have "done" it as above, and the shoots are now hard upon twenty feet in length.

The positions of the beds in the plan you sent are quite right; but recollect, none of the four corner beds must be circles; the middle distance ones may be circles, or not, as you please.]

SAPONARIA CALABRICA AND OCYMOIDES.— FEATHER GRASS.—GREENHOUSE CLIMBER.

"1st. What is the difference between *S. Calabrica* and *S. ocyroides*?

"2nd. What is the popular, and what the botanical, name of a Grass cultivated in gardens, and bearing a strong resemblance to the tail feathers of the Bird of Paradise?

"3rd. What greenhouse climber, of all others, would you recommend to run along a narrow beam, say thirty feet long, and six inches wide, and which forms the gutter between a double house? Something that would bloom in the summer or autumn months would be preferred to a spring flowering one, and also one which would not be subject to that great pest Green Fly.—A SUBSCRIBER, Waterford."

[1st. The flower of *Saponaria Calabrica* looks as much like that of *ocymoides* as a Yarmouth bloater and a fresh herring; but the difference between the two is as much or more than that between Her Majesty and Prince Albert, or the Prince of Wales and the Princess Royal. The former is an annual plant, which flowers from June to November; the latter, a most delicate rock perennial plant, which blooms only for a month or so at the end of spring.

2nd. *Stipa pennata*, the Feather Grass, we presume, is what you mean.

3rd. The greenhouse climber that will suit you best is *Tuesonia mollissima*. You may see a rope of it extending along the whole front of the large conservatory in the garden of the Botanical Society, Regent's Park, where it blooms in the autumn and winter as freely as any climber can do, and there is not a fly, nor a spider, nor a living creature among all the animals in Regent's Park, that likes to have much to do with it one way or the other.]

TO CORRESPONDENTS.

PLANTING-OUT DISAGREABLE OBJECTS (*An Anxious Enquirer*).—You must not trust to any of the finer Pinuses, or Aracarias, for hiding the outbuildings. Tall Spruce Firs and Silver Firs are the only things to suit your locality for that purpose. Keep these as far back as possible, and in front of them is the right place to plant the finer kinds; but be sure and do not plant fine trees or shrubs too thick, as most people do. The evergreens are not at all out of place under the large trees, but just the contrary; but more Tree Box than any other evergreen should always find a place under trees. Gardeners understand flagging, or turving, equally well. We "turf" with new "flags" from the nearest common.

SUREBAN GARDEN (*An Amateur*).—There is no more room for evergreens on the grass; but you might plant a few more Roses on it, and two or three plants of the Tree Paeony at the same distance from the walk as the Roses are. The border, which is thirty inches wide, must be planted on the mixed-border plan all round with the showiest herbaceous plants, a few bulbs and annuals, unless you have pot-plants to plant out here and there between the hardy ones, such as Scarlet Geraniums, Calceolarias, Verbenas, Fuchsias, and Gladiolus. Such borders would look gay just now with four kinds of Crocuses in one close row all round. We have such in our own garden, the best arrangement yet hit upon, with four kinds only—a yellow, a pure white, a light blue, a white with feathery lilac, and then a yellow, and so on the whole way—yellow being the strongest—we have thus a white, or nearly white, on each side of it, and the light blue, being the weakest colour, is cut off from the yellow by the light ones on each side of it. Crocuses in patches are lost, as compared to the effect of this arrangement. It is good time to plant Crocuses when they are in bloom, to get the colours in the right places. If you sow a row of *Nemophila insignis* all round, and just nine inches from the walk, and then another row of the yellow *Eschscholtzia* ten inches from the walk, you will have a more gay fringe of flowers for the whole season than any of your neighbours. We have just sowed ours on this very plan. The shade of the blue *Nemophila* will not hurt the yellow *Eschscholtzia* for all the time it lasts, and the yellow flowers will be ready to replace the blue by the time the latter is getting seedy. Such narrow borders as yours, and our own, will not look gay without some such fringes of one colour; no, not if they were planted by a Fleming or a Beaton with the best herbaceous plants on earth. As to the rest, you cannot go wrong by planting such plants as you can procure; or you may select at random from our former lists; but have Paeonies, Phloxes, Penstemons, Potentillas, Oenotheras, Campanulas, Irises, and Delphiniums, and plant every one of these two feet from the walk. Their own different ways of growing will break the formality.

SEEDS IN AN OAK (*C. D.*).—We have no doubt they would have vegetated, for we opened several, and the cotyledons and embryos looked fresh and unshrivelled. They were destroyed.

BOOK ON GREENHOUSES (*A Subscriber*).—One is preparing, and will be published shortly. Some seeds of 1854 will grow; others will not. Try them, but do not depend upon them only.

LACTOLINE (*T. Ellis*).—You had better keep a couple of goats; they will be more likely to supply your tea-table than the French chemists' preparation Lactoline. Liquid-manure is best used clear, because it does not clog up the soil; but it may be used unclear. Every Lime differs, if prepared from different chalks or limestones; but still, any lime does for making mortar, though some lime is better than others for the purpose.

SOIL FOR ROSES (*Novice, near Liverpool*).—A great deal of the land about Liverpool and Manchester is far too dry and sandy for the Dog Rose on which they bud Roses. It is on such soils that the value of Roses on their own roots is so soon apparent; but the Moss and old Cabbage Roses, and the like of them, dislike light and poor soils quite as much as the Dog Rose. But most Roses delight in rich, fresh, strong loamy soil. On very light land the pruning of Roses should be more severe. All the little shoots ought to be cut to the last eye next the old wood, and the strong ones to within four, five, or six eyes, according to their strength; and very rotten dung, with no sparing hand, is the best kind of manure for them.

LIST OF DAHLIAS (*Several Enquirers*).—In our next number, or, at furthest, the next after that, we will publish a list and description of the thirty-six best old and new Dahlias, and of the twenty-four best fancy Dahlias. We are promised these lists by Mr. J. Keynes, florist, Salisbury, who is one of our best authorities as to the merits of these flowers.

STOCK (*Peter Simple*).—Your *Empress Stock* is one of the intermediate varieties. Your *Tan* that will not give out heat is, probably, too dry.

SPRING WATER AT RICHMOND (*T. G.*).—Put a quarter-of-an-ounce of carbonate of ammonia to two pailfuls (five gallons), and let the mixture stand in the house for two or three hours before applying it to the plants.

ELPHINSTONE ON VINES (*Tyro*).—Mr. Elphinstone is gardener to Sir Shafto Adair, Flixton Hall, near Bungay. Write to him.

NAME OF PLANT (*Rebecca*).—Your plant is called the *Linum trigynum* (Three-styled Flax). An excellent account of which is given by Mr. Beaton, vol. xi., page 336, of THE COTTAGE GARDENER.

VINEGAR PLANT (*E. F.*).—Its botanical name is *Penicillium glaucum*, and you will find a drawing and description of it in our 35th number. If it sinks in the sugar-and-water put it upon a piece of wood.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and Aug. 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close April 30th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray.

NORWICH. June 29th. (Norfolk Agricultural, for Subscribers only.) Sec. Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec. Richard Hawksley, jun. Entries close November 19th.

PARIS. May 23rd to June 7th. Sec. M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

WIAFDAL. April 18th, at Otley. Sec. Mr. T. Metcalfe, Otley.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

N.B.—Secretaries will oblige us by sending early copies of their lists.

POULTRY AT THE ROYAL AGRICULTURAL SOCIETY'S AND THE PARIS SHOWS.

THE earliest and most enduring occupation of man is unquestionably, the culture of the land. For many years this science was at a stand still. The very nature of the pursuit compelling residence in thinly populated districts was unfavourable to great improvement, and men of knowledge and attainments were seldom found engaged in it. But there arose a new school. Increased population required that more food should be produced; and noblemen and gentlemen, possessing both capital and knowledge, gave themselves to agriculture, to try experiments too hazardous and expensive for those who were working for their daily bread, and called in the aid of science to a pursuit which before had neglected all such helps. It became a pleasure to

communicate discoveries and successes, and hence the formation of the Royal Agricultural Society of Great Britain, and its younger sister in France.

Their attention has not been confined to crops; they have, also, by offering premiums, sought to ascertain the best and most profitable descriptions of stock of every sort; and, neglecting no part of their usefulness, both have offered liberal prize lists for Poultry. They appear in our number for this week. While both take only the breeds that are to be met with on farms in the respective countries, it may be curious to mark the difference in nomenclature and classification. We will now notice any difference, as compared with past years, in the Royal Agricultural Society of England's prize list; and, for full particulars, refer our readers to the published prize sheet.

Rule. 5.—Under the head, "Poultry Department," will be found a stride in the right direction, doing away with the necessity of sending a person in charge. It runs thus:—

"The birds will only be given up, on the production of the 'delivery order,' signed by the exhibitor, or his servant; excepting when the owners may desire to have their Poultry returned to them by railway; in which cases, the signatures of the railway servants will be sufficient."

As usual, the *Dorkings*, being considered the best farm-fowls, have the largest amount of prizes offered. The *Cochin-Chin's* pay the penalty of bad entries,—they are reduced. The *Game* are increased. The *Hamburgs* and *Poulands* are classed in their several varieties; and we think our readers will agree that the list for 1856 is an improvement on all its predecessors. We have no doubt we shall have to say as much of the exhibition itself. The evident desire to please all parties deserves their support.

We will now glance at the list offered by the French Government.

We begin with *Crèvecoeurs*. They are known to very few in England, and are scarce in France; but acting on the precedent of the English Society, they have the first place, because they have been for many years the breed supplying the best Poultry, just as the *Dorking* has here. They are, then, considered the most profitable farm-fowl. Next our old friends the *Cochins*; we have heard they now have in France better fowls of this breed than we have. We hope some of our best will try hard to sustain our reputation.

Then the *Dorkings*. These have been imported from England.

Next the *Breda's*. These will have the competition to themselves.

Then our "vexed question," the *Brahma's*. Their opponents may see they have made themselves classes every where, and they will maintain them.

These evidently end what they consider the useful breeds, as distinguished from fancy Poultry, as the next class comprises *Spanish*, *Game*, and *Hamburgs*. Then *Russian*, *Malay*, and others analogous. Then *Padua*, *Polish*, and others analogous; and then "other breeds."

There are separate classes for *Turkeys*, *Geese*, and *Ducks*; and the list closes with *Pigeons*, *Pheasants*, *Guinea Fowls*, and other kinds of Poultry.

A careful perusal will show our English amateurs, that something may be learned by visiting the Paris Exhibition. We hope the day is not distant when, at our principal shows, we shall have our 'cross-channel friends among the competitors.

As they have introduced our *Dorkings* in their classes, may we not expect to see *Crèvecoeurs* and *Breda's* here?

The exhibition takes place under the auspices of the French Government. It is attended by deputations from the Royal Agricultural Society of England; and some of its members act with the Jury of Adjudication. It is, then, well deserving the support of our amateurs. Our French friends are anxious to have our *Game* fowls, and to know more of our *Spanish*. Let us, then, hope that the possessors of good specimens of these breeds will send them. We have strong faith in the pleasure and utility of the pursuit, and we hope many will take advantage of the present opportunity for extending it.

PARIS EXHIBITION OF FOREIGN AND FRENCH BREEDING STOCK.

In addition to the particulars we gave last week, the following are also applicable to Poultry:—

Article 5.—The first prizes given for poultry will be accompanied by a silver medal; the other prizes by a bronze one.

Whenever the exhibitor shall not have been the breeder of a prize animal, a medal similar to that which he receives will be given to the *bona fide* breeder of such animal, on the condition of his justifying his claim to be the breeder of the animal.

Should any exhibitor have bred several prize animals, or only one which the Jury may mention as particularly remarkable, a large sized gold medal may be awarded to him, on the proposal of the Jury.

Article 6.—Animals for which prizes have been adjudged at previous general exhibitions in France can only be allowed to compete again for prizes a degree higher than that which they had previously obtained.

If such animals be shown for a prize equal to that previously awarded to them, they will be entitled only to the mention of that prize without medal. If they be shown for only an inferior prize they will not be mentioned.

In order to be identified, the prize animals will be marked.

Article 7.—Any person who shall be convicted of having exhibited, as belonging to himself, an animal of which he is not the proprietor; or of which the marks have been either destroyed or altered; or who shall make a false declaration of age or breed, may be excluded from the Exhibitions by the Jury for a longer or shorter period.

Article 8.—An exhibitor can only receive one prize in each Category, and for each sex; but he will be permitted to exhibit as many animals as he may think proper in each of the categories.

Article 9.—Honorable mentions, attested by bronze medals, may be made whenever several animals belonging to one exhibitor shall deserve prizes, or whenever the Jury, after having exhausted the awards authorized by the present decree, shall think fit to call the attention of breeders to certain animals.

Article 10.—A sum of 3,000 fcs. (£120) will be placed at the disposal of the Jury to be distributed, with silver medals, to farm servants who shall have distinguished themselves by the care and attention they have bestowed upon the prize animals.

Should there be equality of merit, the Jury will take into consideration of length of service.

None of these prizes shall exceed 100 fcs. (£4), nor be less than 50 fcs. (£2).

Article 21.—All expenses attending management, conveyance, carriage, unpacking and removal, will be at the charge of the exhibitors.

Indemnities will however be granted to the owners of animals which have been awarded first and second prizes at district exhibitions held in 1856 and 1857, as well as to exhibitors of implements and produce having received gold or silver medals at such exhibitions, on the condition that they will take such prize animals, implements, and produce to Paris.

Foreign animals, implements, and produce sent to the exhibition will be conveyed at the expense of the Government, but only from the frontiers.

Article 25.—The programme of the Exhibition for 1856, will be as follows:—

For Animals.

- May 28th Reception.
- 29th Classification.
- 30th and 31st.... Operations of the jury.
- June 1st, 2nd, 3rd, and 4th.. Public exhibition, from 9 A.M. till 5 P.M. on the following conditions:—
- 1st of June, admission 2 francs; 2nd, 3rd, and 4th, 1 franc.
- On Thursday, 5th of June, free admission from 9 A.M. till 5 P.M.
- On the same day, distribution of prizes and medals at 2 P.M.
- On the 6th of June, exhibition and sale of the animals, either privately or by auction, from 8 A.M. till noon; admission 25 centimes.

The owners of prize animals will be bound to leave them, if required, at the disposal of the commissioners, during the whole of the 7th, for marking or daguerreotyping.

THE POULTRY EXHIBITION OF NEWCASTLE-UPON-TYNE.

THIS was the fifth Exhibition of this Society, and was held, as last year, in the General Corn Market; the time fixed for the purpose being the Tuesday and Wednesday in Easter week, from the combined motive of giving the working population the opportunity of viewing the collection, and in the hope, also, of improving the interests of the Society, by the greatly increased attendance at the time of such a general holiday. The promoters have acted wisely; and, year by year, from the very commencement, the show has been greatly increasing, both in the number of pens competing, and also in the superior quality of the birds exhibited.

The despatch used to "make all ready," is, perhaps, without parallel in the records of our poultry meetings. The building was actually in use for its accustomed purpose of a Corn Exchange until past noon of the day preceding the Exhibition opening to the public view, at 10 A.M. Notwithstanding, by the united efforts of a very hardworking committee, the four hundred pens were not only erected, but the birds cooped, and most of the prizes awarded by ten o'clock on the following morning. The attendance of the nobility and gentry was very good, nor were their encomiums withheld at the order and regularity of the whole affair. It is really surprising what may be done by parties as energetic as the Newcastle Committee, though we do candidly advise none to follow in their footsteps, unless perfectly aware of the difficulties they have to encounter, or most probably they will, when too late, bitterly regret leaving arrangements to the last moment. In this case, as we have already shown, the circumstances rendered the delay compulsory. The pens were arranged in single row only, so that all obtained light equally, and the opportunity of close inspection was enjoyed as fully as possible by every visitor. The *Spanish* classes were excellent, more particularly the chicken class of this variety: perhaps they, as a whole, were never excelled. The adult *Grey Dorkings* were very superior, but the chickens were not so good as we anticipated meeting with. Among the *Cochins* we noticed several very beautiful and accurately-feathered pens of partridge-coloured, but they were particularly under-sized birds; and we hint, for their owner's benefit, no doubt the infusion of *fresh* blood would be a great improvement to them. The *Game* were very good. In *Hamburgs*, more particularly the Spangled (whether Silver or Golden), the Newcastle Meeting stood very high, and the competition was closely disputed. The *Polish* were equally well represented. *Bantams* were not worthy of especial remark; on the contrary, the *Aylesbury Ducks*, *Turkeys*, and "class for *Ganders*," were quite unexceptionable. The latter was a unique class, and the male birds, thus capriciously separated from their sitting mates, seemed in high condition, calling incessantly and vociferously both day and night; indeed, they proved themselves not only the largest sized, but infinitely the most noisy specimens it has ever yet been our fortune to meet with. The "extra class" was indeed worthy of its appellation. Here were to be seen a goodly array of Peacocks, Pheasants, Barnacle Geese, Swan Geese, Grey Call Ducks, Shell Drakes or Saint George's Ducks, Cranes, besides various really capital specimens of the ordinary varieties of Poultry that commonly appear, as Serai Taóok, Silky Fowls, Rumpless, &c. The advantage of so extreme a variety in enlisting public favour and attention was very obvious; the avenue was constantly thronged to excess; and no doubt exists in our mind, that such "singularties" serve wonderfully to aid the interest of any Poultry Show; whilst we also witnessed how many visitors acknowledged they had paid their admission *exclusively* "to view this particular class alone." We therefore recommend Poultry committees to encourage such displays,—for though at Newcastle the prizes thus offered were only four, of five shillings each, the inducement produced the collection we have just faintly described. The committee secured the services of Mr. Edward Hewitt, of

Birmingham, to officiate as sole judge on the occasion, which he did to their perfect satisfaction. That gentleman waited the whole of the first day, by self-proposed arrangement, in the exhibition, to explain, should any objection arise to his decisions. Not a single one was made, and everything passed off most agreeably. The fowls were all removed within two hours of the close of the exhibition; and the great attention given them during their confinement was most worthy of our highest commendation. The "strawing down" of each pen throughout the exhibition, at *nightfall*, struck us as a new but very useful addendum to ordinary plans.

COCHIN-CHINA (Cinnamon or Buff).—First, Mr. H. Marshall, Durham. Second, Mrs. Bell, Eden House, Sunderland.

COCHIN-CHINA (Partridge or Brown).—First, Mr. Thomas Bridges, Croydon. Second, Mr. William Cannan, Bradford.

COCHIN-CHINA (White).—First, Mr. William Dawson, Hopton Mirfield, Yorkshire. Second, Mr. John Carrick, Brampton, Carlisle.

COCHIN-CHINA (Hatched 1855).—First, Rev. C. C. Snowden, Mitford Vicarage, Morpeth. Second, Mr. William Stott, Sowerby Bridge, Yorkshire.

BRAHMA POOTRA.—First, Mr. John Teasdale, Welburn, York.

SPANISH.—First, Mr. William Lightfoot, Shieldfield, Newcastle Second, Mr. James Beattie, Haddington. *Chickens*.—First, Mr. James Dixon, Bradford. (An unusually good class.)

DORKINGS (Coloured).—First, Mr. James Beattie, Haddington Prison. Second, Mr. Isaac Lawson, Holm House, Carlisle. *Chickens*.—First, Rev. G. Hustler, Appleton, Tadcaster. Second, Mr. John Robinson, Vale House, Garstang.

DORKINGS (White).—First, Mr. J. Robinson, Vale House, Garstang. Second, Mr. Edward Pease, jun., Southend, Darlington.

MALAY.—First, Mr. Henry Bolekow, Martin Hall. Second, Mr. Fred. A. Phillbrick, Shrubend House, Colchester.

GAME FOWL.—First, Mr. John Charlton, Simpson-street, Newcastle. Second, Mr. Wm. Cannan, Bradford.

GOLDEN-PENCILLED HAMBURGHs.—First, Mr. Daniel Harrison, Singleton Park, Kendal. Second, Mr. James Dixon, Bradford.

SILVER-PENCILLED HAMBURGHs.—First, Mr. James Dixon, Second, Mr. J. Robinson, Vale House, Garstang.

GOLDEN-SPANGLED HAMBURGHs.—First, Mr. James Dixon, Bradford. (A very superb class.)

SILVER-SPANGLED HAMBURGHs.—First, Mr. James Dixon, Bradford.

POLISH (Black with White Crest).—First, Countess De Flahault, Tullyalan, Kildardine-on-Forth. Second, Mr. William Dawson, Selly Oak. **GOLDEN POLISH**.—First, Mr. James Dixon, Bradford. Second, Mrs. John Stokoe, Hexham.

SILVER POLISH.—First, Mr. Wm. Dawson, Selly Oak. Second, Mr. James Dixon, Bradford.

ANY OTHER DISTINCT BREED NAMED.—First, Mr. W. Dawson, Hopton, Mirfield, Yorkshire. Second, Countess de Flahault, Tullyalan, Kildardine-on-Forth.

BANTAMS (Goldlaced).—First, Mr. H. B. Priestman, Benwell House, Newcastle. Second, Mr. H. Marshall, Durham. (Silver-laced) First withheld. Second, Mr. James Dixon, Bradford. (White.) Mr. James Dixon, Bradford. Second, Mr. E. Pease, jun., Southend, Darlington. (Black.) First, Mr. John Rutherford (cottager), Dean Street, Hexham. Second, Mr. J. Dixon, Bradford. (Any other variety) First, Mr. Parkins Jones, High Street, Fulham. Second, withheld.

ANY OF THE ABOVE BREEDS.—First, Mr. Lightfoot, Shieldfield, Newcastle (Spanish). Second, Mr. Edw. Featherstonhaugh, Hermitage, Chester-le-street.

GEESSE (Gander).—First, Mr. J. H. Wood, Berwick Hill, Ponteland. Second, Mr. E. Pease, sen., Southend, Darlington.

DUCKs (Aylesbury).—First, Mr. L. W. Atkinson Newbiggin, Hexham.

DUCKs (Rouen).—First, Mr. Jon. Bell, High Shield, Hexham. Second, Mr. Ed. Akroyd, Denton Park, Otley.

ANY OTHER VARIETY.—First, Mr. James Dixon, Bradford. Second, Countess De Flahault, Tullyalan, Kildardine-on-Forth.

DUCKs (Muscovy).—Mr. G. W. Stable, Heaton Dean, Newcastle. Second, Mr. John Stephenson, Percy-street, Newcastle.

TURKEYs.—First, Mr. Edw. Pease, jun., Southend, Darlington. Second, Mr. H. Marshall, Durham. Commended.—Mrs. Forrester, Follonsby.

BEST TURKEY COCK.—Mr. Wm. Trotter, South Acomb.

GUINEA FOWLS.—First, Mrs. Forrester, Follonsby. Second, Mr. H. B. Priestman, Benwell House, Newcastle.

EXTRA STOCK.—Mr. G. W. Stable, Heaton Dean, Newcastle; Miss Smith, Heaton (crane); Mr. N. G. Lambert, Killingworth House (call ducks); Miss S. B. Smith, Heaton (Barnacle geese).

FEA FOWL.—First, Miss Richardson, South Acomb. Second, Miss Ramsay, Derwent Villa.

SILVER CUPS.

COCHIN CHINA.—Mr. William Dawson, Hopton, Mirfield, Yorkshire. **SPANISH**.—Mr. William Lightfoot, Shieldfield, Newcastle.

DORKINGS.—Mr. James Beattie, Haddington Prison.

GAME FOWL.—Mr. John Charlton, Simpson-street, Newcastle.

HAMBURGHs.—Mr. James Dixon, Bradford.

POLISH.—Mr. William Dawson, Selly Oak.

GEESSE.—Mr. J. H. Wood, Berwick Hill.

DUCKs.—Mr. L. W. Atkinson, Newbiggin, Hexham.

TURKEYs.—Mr. E. Pease, jun., Esteand, Darlington.

MR. BAKER AND HIS POLANDS.

Nor thinking it worth while to notice Mr. Williams's criticism on my *Polands*, I have not before trespassed on

your space, expecting that "Censor's" temperate rebuke would be sufficient, "that a gentleman ought not to make an assertion that could not be verified;" but as he now erroneously states that I am a dealer, and, as such, disqualified to compete, I beg to correct him (I enclose my card). If I am not an amateur of poultry in every sense of the word, then are there none, for I never sell, or seek to do so, otherwise than by affixing a price at the exhibition. I am sorry Mr. Williams should so far allow his feelings of disappointment to get the better of him. He has said, that seeing the pen of fowls referred to, at Liverpool, he consulted his catalogue, and there read as follows:—S. T. Baker, &c., &c., and Half-moon Passage, Graeclurch-street; a reference to which will show that his feelings as an amateur of poultry have been stronger than those of an amateur of truth.

He appears to have acted fairly only in venting his spleen equally against the Judges, dealers, exhibitor and exhibited; "the devil, after all, is not so black as I painted him." Would it be a gratification to him to ring the unoffending bird's neck?

I have been told, by competent Judges, as a pen, mine were the best Polands ever exhibited. The cock was, undoubtedly, the worst of the lot; but the hens were of such unsurpassable beauty that they fully made up for any deficiency. Your subscribers must congratulate themselves that the personalities, abuse, and misstatements, indulged in by Mr. Williams, are the exception, not the rule in your paper. Apologizing for troubling you, I remain, Sir, THOMAS BAKER.

[Mr. Baker is an engineer. Mr. Williams took it for granted that there could be but one Mr. Baker at Chelsea, and that that Mr. Baker must be the well-known poulterer. This is only one more instance among thousands, that what is taken for certain without inquiry usually leads the taker into error.—ED. C. G.]

OUR LETTER BOX.

SUDDEN DEATH OF A GOLD PHEASANT (*A Constant Reader*).—"I have lost a beautiful hen bird, two years old; but it showed no symptoms of any approaching disease till within an hour or two before its death. My employer sent it to a bird-stuffer—a fancier near the neighbourhood—who said it died with an enlargement of the heart, caused by over-feeding. The way they have been fed is as follows:—Maize, with barley; sometimes boiled rice, and plenty of green food. I generally feed them three times per day, throwing down just as much as they pick up at the time, which is not much, as they are such delicate eaters. The bird seemed as if it had been choked with large maize, or something, as there was blood all around its beak, and it gaped and retched. When first I saw it I gave castor oil; but it died a few minutes after."

[The symptoms mentioned are not those of enlargement of the heart—a disease not liable to be produced by over-feeding. I should say that the birds were not over-fed; but it would be impossible to state the disease positively without a more accurate knowledge of the case.—W. B. T.]

GIZZARD-FALLEN IN PIGEONS.—"G. D. has a valuable hen Carrier Pigeon which he much prizes, and is concerned to find her swollen behind between the vent and the end of the breastbone, which he finds (by *post mortem* examinations on previous occasions) to be an enlargement of the gizzard and intestines. What treatment would be recommended by Mr. B. Brent (who is a well-known, good fancier), or any other contributor?

"What work would be advisable to procure a knowledge of cultivating and manuring a small plot of land in the neighbourhood of Dublin, in addition to what is set forth in that admirable little work, 'Gardening for the Many'?"

[The disease of *G. D.*'s Carrier is, probably, what is termed, "Gizzard fallen." It proceeds from debility, caused, in many instances, from in-and-in breeding, want of exercise, or too stimulating food. It was considered incurable by the old fanciers, though flying has been recommended. The disease has not come under my notice, and, therefore, I can only suggest that a grain of calomel given once or twice may remove the inflammation, and that exercise and more natural food, combined with such condiments as they get when at liberty, will, in all probability, restore the bird if not too far gone.—B. P. B.]

We shall soon publish a similar manual to "Gardening for the Many," applicable to your wants.]

WHITE COCHIN-CHINA EGGS (*A. D.*).—Look in our advertisements. There are plenty from first-rate stocks offered there.

HAMBURGS (*W. H. Spencer*).—One variety has pencilled feathers, and the other spangled feathers. You will see drawings of both kinds of these feathers in a former volume.

MARKING FOWLS.—MIXING MEAL FOR THEM.—"I write to inquire, through the medium of THE POULTRY CHRONICLE, if you can advise me how I am to place any distinguishing marks on very young chickens? I mean, if marks can be made which will be attached to the bird through life? Also, the best way of preparing oatmeal or barley meal for young broods? I find even in its admixture with pollard it is so sticky as not

to be relished by them, and they almost always leave it for grain.—AMICUS GALLI."

[Game breeders mark their chickens in the webs of the feet. We have always marked ours in the web of the wings; sometimes by passing a piece of small, coloured twine through it by means of a stout needle, and tying it in, making each colour to distinguish a brood. At other times we have perforated the web with a hot knitting-needle. This can never be obliterated. Any number of broods may be distinguished thus: The pain is merely momentary. The first is the least painful, and it seldom works out. Oatmeal or barley meal, mixed with an equal quantity of coarse pollard and very little water, is quite crumbly. It ought to be given in troughs with barred lids, so that the chickens can get their heads in to feed, but cannot walk over it.]

MONSTER EGGS.—"In reply to *G. M.*'s inquiry, Mr. W. B. Tegetmeier says, the cause of the Goose laying such enormous eggs is 'an over-supply of nutritious food.' Suspecting that this *might* be the reason, last autumn and winter, 1854–55, the two Geese and Gander were kept in a grass field, and debarred from any other food than what they could pick up for themselves during a period of at least three or four months. They were supplied with oats merely when the ground was covered with snow, and yet the Goose laid these monster eggs as frequently as she has done this year. What quantity of oats or barley ought to be sufficient for one day for the two Geese and Gander?—*G. M.*"

[The cause of soft eggs in poultry has yet to be discovered. There is no doubt it arises from derangement of some of the organs concerned in their production. In this instance, both were fed alike, and *one* laid soft eggs. We would advise that gravel and mortar be mixed with the oats given. When there is a good run of grass they require little food; but to keep them in high condition they might have a pint of oats per day, and the gander should have very few of them.]

LONDON MARKETS.—MARCH 31st.

COVENT GARDEN.

We have but trifling alterations to report, the prevailing easterly winds having rendered our supplies very uncertain and short; but this being holiday week, we have had quite sufficient for the demand. *Pears* are now limited to *Ne plus Meuris*, *Easter Beurre*, and *Beurre de Rance*; the latter being most plentiful, and, from Standards, seem to ripen well. *Green Pears* are now imported from France and Spain, but do not meet with much demand. Other Continental produce remains much about the same, and consists of *Artichokes*, *French Beans*, *Radishes*, *Lettuces*, and *Endive*. *Potato* trade dull, at former rates.

FRUIT.			
Apples, kitchen, per bushel.....	3s. to 6s	Parsnips, per doz.....	6d. ,, 9d.
"dessert	6s. ,, 10s.	Beet, per doz.....	1s. to 1s. 6d.
Pears, per dozen	1s. ,, 3s.	Potatoes, per cwt.	3s. ,, 6s.
Pine-apples, per lb....	8s. ,, 12s.	Onions, young, ditto..	1d. ,, 2d.
Foreign Grapes, per lb.	2s. ,, 3s.	Turnips, per bunch..	,, 3d.
Hothouse ditto, ditto	15s. ,, 30s.	Leeks, per bunch	2d. ,, 3d.
Strawberries, per oz..	2s. ,, 3s.	Garlic, per lb.	6d. ,, 8d.
Foreign Melons, each	2s. ,, 4s.	Horseradish, per bundle	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. ,, 10s.	Shallots, per lb.	6d. ,, 1s.
Seville Oranges, do....	6s. ,, 12s.	Lettuce, Cos, each	6d. to 8d.
Lemons	6s. ,, 12s.	" Cabbage per doz. 2d.	,, 3d.
Almonds, per lb.	2s. ,, —	Endive, perscore .. 1s. 6d. ,, 2s.	
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Celery, per bunch.. 9d. ,, 1s. 6d.	
" Cobs, ditto .. 60s. ,, 70s.		Radishes, Turnip, per dozen bunches	6d.
" Barcelona, per bushel.....	20s. ,, 22s.	Water Cresses, ditto ..	6d. ,, 9d.
Nuts, Brazil, ditto..	12s. ,, 14s.	Small Salad, per punnet.....	2d. ,, 3d.
Walnuts, per 1000 ..	9s. ,, 12s.	Artichokes, per lb.	2d. ,, 3d.
Chestnuts, per bushel	15s. ,, 24s.	Asparagus, per bundle	5s. ,, 8s.

VEGETABLES.			
Cabbages, per doz.	1s. to 1s. 6d.	Sea-kale, per punnet	2s. ,, 3s.
" Red, per doz.	2s. ,, 4s.	Rhubarb, per bundle	6d. to 1s.
Cauliflowers, per doz.	4s. ,, 6s.	Cucumbers, each	1s. ,, 3s.
Brocoli per bble	1s. ,, 2s.	Mushrooms, per pot 1s. 6d. ,, 2s.	
Savoy.....	1s. ,, 2s.	HERBS.	
Greens, per doz. bnch.	4s. ,, 6s.	Basil, per bunch	4d. to 6d.
Spinach, persieve....	— ,, 4s.	Marjoram, per bunch	4d. ,, 6d.
French Beans, per hundred	3s. ,, 4s.	Fennel, per bunch ..	2d. ,, 3d.
Carrots, per bunch ..	4d. ,, 6d.	Savory, per bunch ..	2d. ,, 3d.
		Thyme, per bunch ..	2d. ,, 3d.
		Parsley, per bunch ..	2d. ,, 3d.
		Mint, per bunch	2d. ,, 4d.
		Green Mint	6d. ,, 8d.

POULTRY.

The season of scarcity is making itself felt, and prices are rising. Poultry may be very dear for a time, but there is no indication of such a dearth as that of 1855.

Large Fowls .. 6s. 6d. to 7s. each.	Teal	1s. 6d. to 1s. 9d. each.
Smaller do. 4s. 6d. to 5s. 6d. ,,	Widgeon..	1s. 6d. to 1s. 9d. ,,
Chickens 4s. 6d. to 5s. ,,	Guinea Fowl 3s. 3d. to 3s. 6d. ,,	
Goslings..... 8s. 6d. to 9s. ,,	Pigeons	10d. to 11d. ,,
Ducklings 5s. to 5s. 6d. ,,	Rabbit... 1s. 5d. to 1s. 6d. ,,	
Wild Ducks 2s. 3d. to 2s. 6d. ,,	Wild Ditto ..	10d. to 1s. 0d. ,,

There have been a few Plover's eggs, but they are not numerous enough to admit of quotation.

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WEEKLY CALENDAR.

APRIL 8-14, 1856.			WEATHER NEAR LONDON IN 1855.				Sun	Sun	Moon	Moon's	Cloes	Day of
D	D		Barometer.	Thermo.	Wind.	Rain in	Rises.	Sets.	R. & S.	Age.	bf. Sun.	Year.
M	W					Inches.						
3	Tu	Cholera agilis.	30.050-29.999	53-38	N.W.	01	21 a 5	43 a 6	11 49	3	1 48	99
4	W	Catops sericeus.	29.811-29.404	58-39	W.	01	19	44	morn.	4	1 31	100
5	Th	Catops chrysocloides.	29.301-29.253	54-40	W.	01	17	46	1 4	5	1 15	101
6	F	Catops nigricans.	29.556-29.423	57-42	W.	05	14	43	2 6	6	0 59	102
7	S	Ptomophagus villosus.	29.572-29.512	60-46	S.W.	01	12	49	2 50	7	0 43	103
12	SUN	3 SUNDAY AFTER EASTER.	29.607-30.546	57-39	S.	01	10	51	3 19	8	0 27	104
14	M	Ptomophagus fumatus.	30.002-29.814	62-40	W.	—	8	53	3 42	9	0 12	105

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 55.8°, and 32.4°, respectively. The greatest heat, 73°, occurred on the 14th, in 1852; and the lowest cold, 22°, on the 13th, in 1853. During the period 103 days were fine, and on 93 rain fell.

WITH much that Mr. Beaton writes to-day upon the Horticultural Society we entirely agree, and with no passages more entirely than with those in which he says, "The Society has fulfilled its mission—its days are numbered; but let us die in peace with each other, and with all the world besides."

So say we—let the Society die; but let it spring up again, renovated and re-organized. It has fulfilled its mission—it has aided in improving and enriching every department of Gardening;—let it pursue its mission along other paths and under the guidance of other missionaries. No one will venture to say that there is no more for it to do. The age for Horticultural Societies is not passed; and if we look to continental Societies, and see what they are doing; if we consider the experiments and researches which might be followed out in the Chiswick Garden, and which might be published in a cheap form; and if we consider what places for reference are its orchard and library, we shall appreciate what a vigorous Horticultural Society might achieve for gardening.

The Society wants new heads at its Council Board, and, perhaps, no more unfortunate expression ever came deliberately from the pen of the Managers of a ruined Society, than that from the present Council, in which they state as their opinion "that so large a portion as one-third of practical horticulturists on the Council, would be unpopular, if not disadvantageous." It is somewhat difficult to write temperately upon this gratuitous insult to the Gardeners of England; an insult which would have been better unexpressed even if the Society was popular and flourishing under the management of the Council which uttered it. When we reflect that under that Council the Society has been brought to the brink of destruction; that from the want of practical managers no experiments worth recording have been conducted in the Garden; that money has been lavished upon the culture of Orchids and other plants cultivated only by a few; when Members are fast withdrawing from the Society; when it is suggested by that Council that the Garden shall be abandoned, and the Regent Street House retained, a step, if taken, that will, beyond all doubt, put an end to the Society—When these facts are before the Gardening community, then to tell that community, that to allow them to have even one-third of the management of a Gardening Society in their hands would be "unpopular" and "disadvantageous," is about the blindest dictate of presumption ever published.

We now leave the Society. On the 1st of May will be decided whether its members are content to let the present pilot still steer it to the fall over which it is purposed it shall be precipitated.

MEETING OF THE HORTICULTURAL SOCIETY.—MARCH 31st.

THE business which was carved out for this meeting was to hear the Report of the Council on the suggestions made by the Committee of Investigation, to help the Council to deal with those suggestions, and to elect three members on the Council in the room of three of the oldest of the Council, who took the precaution of deserting the Society on the plea of ill health.

There was a good muster of Fellows; but it took all our available strength just two hours to do all that work; and what we did was only half done after all. We are now no more forward than we were the first day we met. Even the election of three new men on the Council was out of "order," and is only a half measure, if so much. By the rules of our Charter, all our elections must be by the ballot, and all our other movements go by the said rules. Our worthy Chairman, on this occasion, Sir P. Egerton, Bart., had to apply some of the rules of the Charter vigorously to keep some of the speakers within the mark; but, contrary to the rules of the said Charter, he allowed the meeting to believe that we elected three "discreet" persons in the room of three more discreet ones, who "made off" in good time. But this election is null and void in law, nevertheless; and the work will have to be done over again, unless we overrule the Charter, by which all our elections are expressly required to be by ballot; and "unless it shall appear upon such ballot that two-thirds of the Fellows present at such meeting shall have voted for the same," the election shall be of none effect; but we, in the hurry of the moment, were content with a good majority—33 against 19—and so fell short of the conditions imposed on us by our Charter. Therefore, as far as our election of three members on the Council is concerned, we might just as well have met on the 1st of April as on the last of March. Yet, like the rest, we railed against the mismanagers of the last war.

The rule is, that the Council nominate or recommend three "discreet" persons at every anniversary to fill the place of three who retire every year; and the Fellows present may object to one, or to the whole three, and vote for others instead, or they may vote for the nominees of the Council. On this occasion, the nomination of the Council was very "discreet" indeed. Two out of the three were members of the late Committee,—the Rev. Mr. Harcourt and Mr. Veitch, jun.; and the third, Mr. Spencer, is one of our very best practical gardeners; and if three more equally qualified should be elected in the rotation at the next anniversary meeting, on the 1st of May, full one-third of the Council, at least, would

be very good practical gardeners. But the Council say, they are "of opinion that so large a portion as one-third of practical horticulturists on the Council (the number recommended by the Committee) would be unpopular, if not disadvantageous!" Very well, be it so; but Gardeners may well retort on the Council, and say, fearlessly, that non-practicals have made the Horticultural Society of London the most unpopular society of any in Europe; and that of itself is now far more "disadvantageous" than the "financial difficulties."

But as the "Committee of Investigation" could only suggest the discharge of Mr. Gordon and Mr. Thomson, and left out altogether the "investigation" into the real causes of the unpopularity, why should I go out of my way to point them out? I would not give a *boodle* for all the "investigations" of that Committee; we should have been better off now without them. But the best proof of their weak points is the fact, that after hearing all they had to say, and after considering over it for nearly three weeks, Earl Grey rose, and proposed the very same resolution which he submitted on the 11th of February, that is, to sell every "stone and stick" in the Chiswick Garden. I expressed a hope that the Council would have acted more gentlemanly by the Committee, on the principle of one good turn deserving another; but no; Chiswick Garden will certainly be sold off after a vain struggle or two, and if the Society must fall to the ground in consequence, the more is the pity. But in this reading age no garden will fill the loss; and it must be of little consequence to the gardening world at large whether we fall this year or next.

The Horticultural Society has fulfilled its mission long since; but it is a hard matter that it should die in debt. They say we are solvent; but I doubt it. If everything comes to the hammer before a large portion of our debt is cleared off, depend upon it we shall not have much left to quarrel about. The more sanguine of the Fellows entertain strong hopes of a revival; and those of them at this meeting carried the day in favour of "subscriptions in aid." They are to look out for donations between this and the next anniversary meeting, by which time they expect to collect sufficient funds to carry on the Garden, or, rather, the whole establishment of the Society, for one year; and if they succeed, the Council undertake to deal with it to the best of their abilities. If this scheme should fail, the resolution for selling off the Garden will be proposed the third time, and a counter proposition to sell the house in Regent Street instead, as being of less value than the Garden in the eyes of practicals. After all, you may take my word for it that the days of the Horticultural Society are numbered; but let us die in peace with each other, and with all the world besides.

D. BEATON.

REPORT BY THE COUNCIL OF THE HORTICULTURAL SOCIETY
TO THE SPECIAL GENERAL MEETING, HELD ON MONDAY,
MARCH 31, 1856.

It having been resolved at the last Special General Meeting of the Society, "That the report then presented by the committee appointed on 5th February be referred to the council, with the request that the council do report to a future meeting on the practicability and advisability of adopting the recommendations of the committee, or any portion of them," the council now proceed to state the result of their consideration of the document in question.

It will be in the recollection of the society, that the council in their report of February 5th, expressly declared that it was because of the apparent impossibility of defraying the cost of the society's garden, that they had caused a Special General Meeting of the Fellows to be convened, "for the purpose of obtaining the authority of the society to make so great a sacrifice; or of hearing what other course the Fellows might have to propose." Moreover, after stating their own views of the future course that might be taken, the council added, "that upon these points some difference of

opinion must be expected to prevail." "In circumstances so difficult as those of the society it could scarcely be otherwise. They did not cling to their own suggestions. Although the proposals they made were the best which had occurred to themselves, or had been suggested by others, at the date of their circular of December 24th; nevertheless, should different views, NOT INCONSISTENT WITH THE FINANCIAL SAFETY OF THE CORPORATION, meet with the approval of the Meeting, the council declared their readiness to do what lies with them to give them effect."

It was, therefore, with no reluctance that they assented to the further consideration of the subject by a committee of gentlemen wholly unconnected with themselves, and they immediately instructed the vice-secretary not only to give the committee whatever information it might require; but to place at its disposal, without reserve, every book, paper, or other document which could aid the members in their inquiry.

When, therefore, the report of the 11th of March, to the recommendations in which the council are now about to advert, was presented to the meeting, it was in a spirit the reverse of hostile that its immediate adoption was objected to. But the council felt it to be absolutely necessary that so important a document should be considered with far more care and deliberation than it was possible to give it at the moment of its reception; they also saw that parts of it required explanations which might be more satisfactory and conclusive if obtained by a personal communication with some of the committee than if discussed on the instant.

When the meeting of the 11th of March broke up, the council immediately invited to a conference the chairman and the two other members of the late committee who addressed the meeting, namely, Mr. Godson, the Reverend L. Vernon-Harcourt, and Mr. Veitch. That conference has been held; such points as seemed to the council most in need of elucidation have been fully discussed; and the council now proceed to state the conclusions at which they have arrived.

It will not be necessary to occupy the meeting with all the topics introduced into the report of the committee. Details will adjust themselves when the main points are determined. The council, therefore, limit themselves to the following subjects:—

1. *The preservation of the garden.*
2. *The future management of the garden.*
3. *Exhibitions at the garden.*
4. *The reorganization of the council.*
5. *The financial question.*

1. *The Preservation of the Garden.*—The council yield to no one in their desire to maintain this branch of the establishment. In their report of February 5th, they expressly declared that nothing less than what they believed to be imperious necessity compelled them to entertain the question of relinquishing it. It was the want of funds, and the danger of plunging the affairs of the society into irretrievable disorder by continuing to incur an expenditure fully £2,000 a year beyond the income of the society, which in their view caused that necessity. The council said, that "the garden had been the great scene of the labours of the Society; it was there and through it that the utility of the society had been demonstrated to the whole world; it was the field in which it had gained a reputation that was acknowledged wherever the name of horticulture was known; and, moreover, it was the place upon which what may be almost called the affection of a large body of its Fellows was fixed." The proceedings at the two last meetings of the Fellows, and the report of Mr. Godson's committee, distinctly show that the feeling is very general. There is no difference of opinion in any quarter as to the preservation of the garden, if it can be effected.

2.—*The future Management of the Garden.*—Among the points in the report of the committee, nothing appeared to the council, at first sight, of more doubtful policy than the proposal to dispense with the services of the two superintendants who have each been so many years in the service of the society; and to replace them by some one practical man of acknowledged skill, energy, and ability. The members of the late committee, with whom the council conferred, have, however, given reasons for their opinion, which undoubtedly have weight. But since the anniversary is close at hand, when a new council will be constituted, the present council

desire to leave so grave a question for the consideration of their successors.

3. *Exhibitions at the Garden.*—The committee propose that only two exhibitions shall, in future, be held annually in the garden,—one in June, the other in July. To this the council assent, if the financial means, to be presently considered, should be supplied. The ground is, however, so fully occupied for the present year by the Regent's Park and Crystal Palace, as to render a June exhibition unadvisable. If we have one it must be held in July.

4. *The Council.*—The committee think that, for the future, one-third of the council should consist of practical horticulturists. They advert to the fact that in the charter where the first council is appointed, three of its fifteen members are expressly declared to be gardeners; and they consider it expedient that the same principle should still be our guide. This is a subject to be dealt with by the Fellows at large, who are the electors, rather than by the council who only nominate. The council have, however, no objection to make to the plan. They do not know what led to a discontinuance of the practice, and if it is the pleasure of the Fellows to revive it, they have only to signify their desire. The council are, however, of opinion that so large a proportion as one-third of practical horticulturists on the council (the number recommended by the committee) would be unpopular if not disadvantageous; and they advise the society to limit the proportion to one-fifth the number of the members of council fixed by the charter.

5. *The Financial Question.*—The committee say little upon this all-important branch of their inquiry. They think that "so long as the society is solvent some risk should surely be incurred." The council were of the same opinion in 1854, when the losses of that year were ascertained; and it was that feeling which induced them to run the risk of 1855; which, it must be remembered, has had the effect of deteriorating the property of the corporation to the extent of £1,550. Risks of this kind are dangerous: and if too often repeated soon convert solvency into insolvency. Nor can the affairs of the corporation be treated as those of a commercial speculation. Acting under this feeling, the council proposed to relinquish the garden, to realise the property there, and to apply the proceeds to the discharge of debts; having done which the society would know, with more accuracy, its true financial position.

To this, however, the committee decidedly object, and the council have no doubt that the feeling of the committee is shared by many Fellows. What the committee propose for the purpose of increasing the revenue of the corporation is as follows:—

Firstly,—To admit two classes of subscribers; one paying four guineas, as at present, who shall not only enjoy the exclusive privilege of sharing in the distributions from the garden, but shall be entitled to a transferable ivory ticket, which shall admit the holder to all the exhibitions, to the use of the library, and to all meetings in the society's rooms;—the second, consisting of two-guinea subscribers, paying an admission fee of only one guinea, who shall be entitled to free admission to all exhibitions and meetings, and to all the other privileges of Fellows, except the ivory ticket and a share in the distribution of seeds and plants, &c. They would leave life-members and early subscribers on the same footing as heretofore; but they would give the present four-guinea members (including four-guinea life-members), the option of either continuing with the same privileges as at present, with the addition of the transferable ivory ticket, or of splitting their four-guinea subscription into two two-guinea subscriptions, which would enable them to remain themselves, and to bring into the society some member of their family, as a two-guinea subscriber, without payment of an admission fee. Of course the Fellows so dividing their present four-guinea subscription would only enjoy the same privileges as the new two-guinea subscribers. All payments, moreover, would be due on the day of election, and annually on the first of May, being always payable in advance.

It will be impossible, in the short period during which the present council are in office, to consider fully and carry out a measure of this kind, which would demand a material alteration in the bye-laws; and, therefore, the present council express no opinion upon its merits, but refer it to the consideration of those who are to succeed them.

It is further proposed by the committee to raise among the Fellows a subscription to pay off the corporate debts. Considerable donations, it is said, have been promised, in the hope of extricating the society from its difficulties. Some gentlemen have suggested a guarantee fund; while others propose that the council should invite the Fellows to take part in a loan upon the security of the property of the corporation, subject to the claims of the present holders of loan-notes, which amount to the sum of £5,000.

Should such measures be practicable, they would, of course, remove the difficulties by which we are now met, and enable the society to try the experiment of reviving the exhibitions, and continuing to maintain the garden.

But it must be borne in mind, that if the garden is continued, and the business of London reorganised in the manner proposed, no relief whatever is to be obtained from reduced expenditure; on the contrary, a largely increased annual disbursement would be inevitable. The garden, if maintained with its present reduced means, would soon become a wilderness. The reduction of cost spoken of in the report of the committee has been wholly provisional and exceptional, and ought not to be further persevered in for a single week if the place is to be retained in efficiency. A considerable addition to labour and materials of all kinds is immediately needed, even the tools are worn out, many repairs must be executed; while the experiments of which it is proposed that the garden should be the scene, are in themselves attended by expense.

The contemplated exhibitions, moreover, must involve a larger cost than ever; in the face of the rivalry before us, all half-measures must fail. The Crystal Palace Company offer at their June show prizes to the amount of nearly £900; as large a sum as any one of the society's meetings has usually cost for the whole of its arrangements. Unless the society is prepared to render the contemplated exhibitions all that the world expects, no competition could be successful.

Then as to Regent Street, it is proposed that meetings on an extensive scale be held monthly; local committees are to be constituted, and whatever can render the London House useful and attractive is to be put into action. An outlay much beyond that to which the society has been accustomed of late years cannot fail to attend such improvements.

With reference to a possible saving of £500 a-year, alluded to at the end of the report, the council see that there is some misapprehension on the part of the committee. In July, 1854, Dr. Lindley, foreseeing the probable increase of the pecuniary difficulties of the society, placed his salary of £500 a-year at the disposal of the council, and at the same time offered to continue to give the society gratuitously such advice and assistance as new engagements might permit. This offer the council understand was again made by the Vice-Secretary to the committee. It must, however, be remembered that the advantages to the society would by no means be commensurate with the sacrifice made by Dr. Lindley; for even were his offer accepted the society would not save more than £200 a-year, while he would lose £500; inasmuch as it can hardly be supposed that an efficient successor could be found for less than £300 a-year. Therefore the council did not think it fit for the advantage of the society that Dr. Lindley's offer should be accepted in 1854; nor do they feel that the true interests of the society would be consulted by accepting it now, when, if the measures at present contemplated take effect, an augmentation rather than diminution of the duties of the Vice-Secretary would be required.

Increased, not diminished expenditure must therefore be inevitable, should the plans of the committee be adopted.

If the Fellows, with a full knowledge of this fact, come forward and place the council in a secure position, then the council will be eager to do all that the most zealous Fellow can require of them. They will preserve the garden, reorganise it, and cause it to be restored to a state worthy in every way of the society. They will revive the exhibitions, and take their chance in the field of competition; and they will render the meetings in Regent Street as interesting on a small scale as those at the garden are on a large scale; they will also cause the Bye-Laws to be revised with a view to securing to the Fellows the fullest freedom of action consistent with the provisions of the charter.

But the Fellows are requested to observe that the support required for these purposes is very considerable, as the following Report from the Society's Accountant shows;—

REPORT TO THE FINANCE COMMITTEE BY THE ACCOUNTANT
UPON THE PRESENT FINANCIAL POSITION OF THE SOCIETY.

16, BUCKLESBURY,
12th March, 1856.

The Report of Mr. Godson's committee advises the holding two Exhibitions at Chiswick this year—now the cost of these (including medals to be awarded) would be at least £1500, probably much more, but say £1500, in addition to which a new large tent ought to be provided to re-place one in a very unsafe state, which if purchased would probably cost £150; or, if hired, from £30 to £50.

The pecuniary risk, therefore, to which the society is exposed by the plan proposed by the committee amounts to £1650, minus what may be the proceeds from the sale of tickets, of which the following is the return since 1850:—

SALE OF TICKETS FOR THREE EXHIBITIONS.

1850.....	£4102
1851.....	5046
1852.....	3225
1853.....	3634
1854.....	2351
1855.....	1681

The last four years' receipts show an average of about £900 for each exhibition, but it is quite impossible to form any idea of the probable receipts this year.

If the exhibitions were to succeed and produce a surplus of at least £1200, over and above their own expenses, estimated above at £1650, the society might be carried on for another year without increasing the debt, *providing the present reduced expenditure should not be increased*, but if they were unsuccessful, and it became necessary that the garden should be given up, the financial position of the society would be as follows:—

The debt of the Society on the 31st March next is expected to amount to.....	£9300
To this would have to be added the difference between the Ordinary Expenditure of the Society for nearly twelve months, being an estimate of four months until the Exhibitions were over, and six months for selling off and arranging the affairs, or.....	£3500
And the estimated Income for the same period, say Subscriptions.....	£2000
Miscellaneous.....	300
Leaving a deficiency of.....	£1200

The above is exclusive of Exhibition Receipts and Payments altogether.

Also add extra Rent payable for the Garden, viz., half year to complete term of occupation.....	£100
And one year's extra Rent on giving up Garden according to the Lease.....	£200
Total.....	£10800

It should be further observed that this amount, although it represents the liabilities of the society in case it continues after giving up the garden, does by no means represent them in case it should be found impossible to carry it on at all. In that event it would be necessary to ascertain the value of Life Subscriptions, which the society would be expected to return to those Fellows who have effected them. These are as follows:—

149 Fellows have paid £4956 for their Life Compositions upwards of twenty years ago.

106 „ „ „ 3960 for the like from one to twenty years ago.

255 £8916

An actuary is the only person who can ascertain the amount claimable by these Fellows.

The total debt of the Society would therefore be £10800, exclusive of Life Compositions, against which there are the following assets:—

Subscriptions due 1st May next and Arrears now due.....	£2700
Value of a House in Regent Street.....	4700
Books and Drawings valued at.....	1000
Rents outstanding, &c.....	67
Property at Chiswick as valued.....	£15656
Deduct proceeds of sales of Stove Plants.....	£569
Do. do. Herbaria.....	254
.....	823
Total.....	£23300

Showing an apparent surplus of..... £12500
From which must be taken the value of the Life Compositions, £8916, but which is not attempted to be estimated.

In the above estimates I do not take into consideration what must be added to the debt in case the exhibitions fail, nor what may be the effect of reducing the annual subscriptions as proposed to £2 2s. I would, however, draw the attention of the committee to the serious decrease in the number of Fellows this year alone, viz., by death 38, and resignation 45, causing a loss of £273 per annum, whilst the elections have only been 30, producing £126 per annum.

The present difficulty, however, which the Committee in their Report do not remove, is—How to pay off the Floating Debt of the Society, viz.:—

£2400 to Messrs. Call & Co. at 6 per cent. interest, of which £1500 is due on the 5th April and £500 on the 21st of June next.

And about £1900, for Rent and Taxes, Medal Accounts, Salaries, and Bills owing, a great part of which is considerably overdue. ADDISON DUNCAN, Accountant.

At the meeting of the society on Feb. 5th it was proposed by His Grace the Duke of Northumberland, a Vice-President of the society, to make room immediately in the council for some of the Fellows who dissented from the measures suggested in the report of that date. The council are now in a position to give effect to that proposal in consequence of the retirement of three gentlemen, who from ill-health have unfortunately found themselves unable to be useful to the society as they once were. The Right Hon. Laurence Sullivan, Mr. Gowen, and Mr. Strachan, three of the oldest Fellows of the Society, whose counsel and assistance, so long as their health permitted them to give it, has been invaluable, have sent in their resignations, and it is part of the business of this day to elect their successors. On this occasion the council have put in nomination a gentleman whose standing in society and acquaintance with rural affairs would render him a valuable councillor, even in the absence of another claim, that of having been an active member of the late committee. With him the council associate two eminently practical men, of whom one was also upon the late committee, and the other must be known to many here as a most able and experienced gardener. By this means the council will be able to receive immediately the advice and assistance of gentlemen who are in possession of the views of the late committee, and who will know how to support them.

On the 1st of May, at the anniversary, three more vacancies must be made in the council, in compliance with the charter, and at that time an opportunity will be afforded of putting in nomination a third practical horticulturist; and the council will thus, as quickly as circumstances permit, have complied with the wish of the committee, that there should be three practical men among its number.

The council anxiously hope that whatever the measures may be which the society adopts, they will be attended by the advantages expected from them.

ANÆSTHETIC PRINCIPLE OF FUNGI.—Mr. Thornton Herepath, in a communication to the *Philosophical Magazine*, No. 63, observes:—"The smoke of the puff-ball, it is well known, has been long employed in some parts of the country, by apiarists, for stupefying bees. In a paper 'On the Anæsthetic Properties of the *Lycoperdon proteus*, or common Puff-ball,' which was read before the Medical Society of London, in 1853, Mr. B. W. Richardson called particular attention to this fact, and stated that the fumes of the burning fungus produced the most perfect anæsthesia, not only in insects, but also in dogs, cats, rabbits, and probably in all the larger animals, and might consequently be applied as a substitute for the vapour of chloroform and æther in producing insensibility to pain in surgical practice." Mr. Herepath, with the view of ascertaining the exact nature of the active principle of narcotism in the above and similar cases, has made several experiments. He has specially examined "the fumes for carbonic oxide, by agitating them with an acid solution of chloride of copper, and also by absorbing the carbonic acid, ammo-

nia, and oxygen, by means of lime-water, diluted muriatic acid, and a solution of the protosulphate of iron saturated with nitric oxide gas, when indications of the presence of carbonic oxide were readily obtained; the fumes, after agitation with the solution of chloride of copper, no longer induced narcotism; whilst those, on the contrary, which had been treated with the other solvents, were more than ordinarily powerful, and rendered an insect insensible much more quickly than before; they also burnt with a blue flame, and possessed all the well-known characters of the oxide of carbon. The correctness of this conclusion was, moreover, confirmed by experimenting with carbonic oxide prepared by acting on oxalic acid with oil of vitriol, and passing the gas evolved through caustic soda-ley. Even when largely diluted with air, it still continued to produce insensibility in insects, and acted in every way like the purified fumes of the *Lycoperdon*. It is not difficult to understand how carbonic oxide is formed by the ignition of the fungus, as this gas is invariably produced in larger or smaller quantity when certain organic substances are decomposed by heat, though some yield it in greater proportion than others; consequently, as might have been anticipated, I find that the fumes of several other fungi act in the same manner towards animals as those of the *Lycoperdon proteus*. The principal of those to which I allude are the common *Lycoperdon* of the druggist, *L. giganteum*, and the mushroom, *Agaricus campestris*."—(Year Book of Facts.)

A FEW SOFT-WOODED PLANTS THAT BLOOM IN THE WINTER AND THE SPRING.

(Continued from Vol. XV., page 461.)

THESE I shall chiefly select from the list of plants in flower, given in Vol. XV., p. 461, to meet the wishes of several inquirers, who find no fault with short notices of tropical plants, or greenhouse hard-wooded plants, but say they can make but little use of such information in their small single houses, filled chiefly with Geraniums, Cinerarias, Primulas, &c.; and for this purpose I will notice a few well-known and easily-grown plants that yield a profusion of bloom.

1. *AGERATUM MEXICANUM*.—This is a well-known bedding-plant for the flower-garden. If kept from frost, it is almost a constant bloomer. When grown in pots, for winter and spring, the dwarf variety is the best. It will bloom pretty well in the greenhouse at an average temperature of 45°, but when the sun gains power, in February and March, the flowers will open more freely, and be of a brighter lilac-blue colour. A well-grown plant has a fine appearance when thus studded with bloom. The easiest way to secure good plants for this purpose is the following:—Insert cuttings under a hand-light, in sandy soil, at the end of May or the beginning of June, and shade from bright sunshine. They will be rooted in a short time. Then harden off gradually, by removing all shade, and giving more and more air, by degrees, until, on a dull day, the glass is removed altogether. Then, a few days afterwards, plant out the rooted cuttings on a border of rich, sandy soil, or, if naturally of a stiff nature, put a handful of such soil round each plant. Place them eighteen inches or two feet apart, water, and place an evergreen branch to shade for a few days. All the attention they will require will be topping the shoots to prevent flowering, and to make the plants bushy, and watering when they require it, which last will be seldom if a sprinkling of rotten dung is placed on the ground as a mulching. About the second week in September, insert a fork half way round the plant, so as to cut or crack, by a gentle raising, the extreme roots on that side; press the ball of

the plant down again with your foot, and water if the weather is dry. In a week do the same with the other side, and by the end of the month lift and pot, and place in a shady place; water the soil thoroughly, and give no more until the soil gets dryish, but slightly syringe over the leaves several times a day to prevent them transpiring too much. In a fortnight the plants will stand in an open exposure, and should be housed before injured by frost. Better plants are thus secured, and at a minimum of the trouble required when grown in pots for this purpose. They might, indeed, be taken out of a flower-bed, but the plants are so far exhausted by flowering, and not likely to be so compact in habit. A variety is being advertised, but I do not know if it be different from the *Angustifolium* or *Strictum*, either of which may be treated in the same way. There is a variegated-leaved variety of *Mexicanum*, which looks nice when grown in a little heat, the white of the leaf being blotched with a rich purple; but in a cool greenhouse, in winter, and even early in summer, out-of-doors, this purple does not appear, and the leaf has a stunted, dull, diseased appearance. After July, out-of-doors, and after March, in-doors, this stunted appearance goes off. It is more erect in habit, and does not bloom so early nor so freely as the common variety. In February it forms a good companion to the variegated-leaved.

2. *SALVIA FULGENS* will bloom freely all the winter, if treated in the same manner as the *Ageratum*.

3. *FUCHSIA SERRATIFOLIA* treat in the same way, with the exception of getting the cuttings struck in April, in-doors, so as to receive one potting before being planted out in June.

4. *SALVIA SPLENDENS*, treat as the *Fuchsia*; take up earlier than the *Ageratum*. If kept in pots, and placed out-of-doors, protect the pots from the sun, and syringe the foliage unmercifully in the afternoon. Unless in a warm greenhouse, this will not open its bloom well after the end of October, unless November be very bright.

5. *SALVIA GESNERÆFLORA*.—This bright scarlet Sage-wort is a perfect gem in March and April. The mode recommended for the other *Salvias* is the easiest, though it can be grown very well in pots all the summer. But if neglected in watering it will lose a batch of its lower leaves each time, and thus look leggy and bare. Small plants in bloom now, well cut back, and, when broken afresh, either repotted or planted out, will make fine plants for next year. Young plants from cuttings will require a good deal of stopping, but it will not be safe to stop the shoots after the end of August, or even the middle of that month. If kept in pots, out-of-doors, after June, the plants should stand in the sun after they are growing freely; be well syringed after hot days, and the pots be protected by a mulching. It is the comparative safety from extremes of dryness and moisture, and a full exposure of the foliage to sun light, that give the planting-out and repotting system such an advantage over coddling them all the while in pots, that coddling involving also an extra amount of labour. In the one case, the plant can nearly cater for itself; in the other, it is dependant on us for nearly every bit and sup it can get.

6. *CHRYSANTHEMUM ANNUM*, double yellow. From this *Chrysanthemum*, sown in borders, or treated as a half hardy annual, I picked out, some years ago, a plant with flowers as fine as a double *Ranunculus*. Any body that liked had cuttings of it, and I have found it in many places under a great variety of names. Kept from frost, it is almost a constant bloomer. It does not always come quite true, having a tendency to come semidouble if grown in very rich soil. When kept young from cuttings, and in poor soil, the good form of the flower and the bright orange colour are preserved. When planted in a bed out-of-doors, the first flowers are frequently inferior, and, as the plants exhaust them-

selves a little, they come rounded and double. I have several times had it nicely in bloom in winter and spring; and you may have plants two feet in height, or six inches, for as soon as it is struck and begins to grow it is smothered with flower-buds. For moderate-sized plants, it would be time enough to strike cuttings from the middle of July to the end of August; and, as the plant does not lift over well, it would be as well to pot and grow in pots. Its colour is useful in winter, when there are no Yellow Cytisus, &c., in bloom.

7. *COREOPSIS TINCTORIA* (various varieties).—This is a hardy annual, which I have found a very graceful adjunct to the greenhouse in winter and spring, its yellow and crimson flowers being produced in great profusion. Sow a patch in the open border in the middle of July. Place a pot over them to keep the ground moist, and remove it when the plants are fairly up. Thin when a couple of inches in height, and prick out about a foot apart, and shade and water until growing freely. Pick out the point of the shoot, and the plant will take a bushy character. Little more will be required before you lift the plants, towards the end of October; and such a mass of fibrous roots do the plants make near home, that you may lift, carry, transplant, or pot, at almost any time, without the plants suffering at all, provided that after such operations the roots get a good soaking. By such simple means as these many a small house could be rendered gay at a very trifling expense. There is, for instance again, the

8. *DOUBLE WALLFLOWERS*, which will not survive the winter in many places, and yet, in their various shades of colour, would be a great ornament to a house after January and February. Cuttings should be struck in a little heat in April, and though the plants would do planted out, yet, as they do not strike over well, it would be the best plan, when they are wanted for greenhouse decoration, to pot and re-pot them, and place them in an open position, and mulch the pots all over with rotten dung. This would likewise enrich the plants alike and save frequent waterings.

9. *CUPHEA PLATYCENTRA*.—This pretty plant, from Mexico, is losing favour as a bedding plant, owing to its leaves hiding its pretty, tubular scarlet and white pointed flowers. Kept in-doors it is ever blooming, and is very attractive in winter and spring, flowering profusely, whether the plant is six inches in height or six times that size. The smaller the pot, in proportion to the size of the plant, the better it blooms, and the better the blooms are seen, as the foliage, in such circumstances, becomes small. If the plant can be set level with or above the eye, it will appear to still greater advantage. For winter and spring blooming, the plants that have been so used may be freely pruned-in in May and June, and re-potted when the young shoots have pushed, and kept in any place, partly shaded, for a short time afterwards. Plants struck from April to July will make nice dwarf plants. I mention these matters, so that the chief strength of the plants for flowering may be put out in the winter and spring months; though I have had large plants in a cool greenhouse, which, supplied with manure-water in summer, never ceased putting out a profusion of their pretty flowers all the year round.

10. *TROPEOLUM LOBBIANUM*, and varieties, such as *Triomphe de gaud*, with larger flowers than the species. To keep this in good health, in winter the temperature should seldom be below 45° at night, with a rise of 10° or 15° from sunshine during the day; and if cold and dull, increasing fires to raise the thermometer to 50° during the day. Continued cold is apt to make the leaves yellow, and, if the soil is extra moist, to cause the stems to canker and rot. With an average of 50° at night the plant will bloom all the winter. If kept at 45°, and lower, it will not open its blooms until the

sun gains power in February and March. These blooms, from their bright scarlet colour, and their long stalks, are very useful for flower-glasses and small bouquets. Young plants thrive best. The following is the outline of management:—In April, and on to June, take off cuttings from the points of shoots, if short, stubby side-shoots about three inches in length cannot be had, and insert them in sandy soil under a bell-glass, raising the bell-glass a little at night to prevent damping. Before the end of May the cuttings will be better for a sweet bottom-heat: in June they will not require it; and if given at all, it should be mild. Pot off into four-inch pots as soon as struck, and keep close until growing afresh. Leave only one shoot; prick off all the others when quite small and young; fasten the one shoot to a small stake, so that it be not stopped by accident. As soon as well rooted, transfer to a six or seven-inch pot, and the protection of a sash will still be in its favour until rooting freely. It should then get an eight or ten-inch pot, and shortly be placed out-of-doors—at first, in a shady place, and in a few days into one more sunny. Peat and loam will do for the first shifting; but for the last the plant should have hardly anything but good fibry loam. Shortly after the plant is transferred, as above, to the flowering pot, a barrel-shaped trellis should be fastened to it, formed of wire, or of stakes placed upright, and the shoot should be placed in volutes round the trellis, commencing at the surface of the pot, and going regularly upwards in volutes about nine inches apart. When it reaches the top, the point should be nipped out, which will encourage the side-shoots to form regularly. It should be shaded a little from the mid-day sun in bright weather, or, if exposed, the pot should be protected. It should be housed by the third week in October. A plant thus grown by one main shoot will bloom more uniformly than if shoots of unequal size are at first allowed to grow. I have had this plant fine, trained round the peeled top of a young larch tree, or by placing several hazel branches round the sides of the pot, and training the shoot round them; but the side-shoots soon conceal the trellis, as they hang gracefully from it, when in bloom. A wire trellis gives least trouble in training. The tops of trees, such as larch or spruce, peeled or unpeeled, do very well for such purposes, and are especially suited for those who wish by their art to imitate nature, as by such means, our climbers in pots and trellises, or dangling from rafters, may be made as easy, and free as the Woodbine and the Clematis in the woodland.

R. FISH.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION.—We are gratified to announce that this association, which held the third of its preliminary meetings in the Flying Horse Hotel, on March 26th, rapidly progresses; an accession of at least fifty members having been announced, along with £60 or £70 of subscriptions. We believe, that although the association may ultimately be thrown open to the public competition as announced in our last, it will probably be judged expedient to restrict its first year's operations to the Midland Counties. To give still greater variety to the exhibition, a show of roots will be included. We have every reason to believe that the prospects of the association are most brilliant, and that reasonable expectations are entertained of securing for it very distinguished patronage.—*Notts Guardian*.

DWARF KIDNEY AND SCARLET-RUNNER BEANS.

LIKE many other things, there is no lack of varieties, especially of the Dwarf section of this class, those generally, but erroneously, called *French Beans* being very

prolific of new kinds; but the respective merits of each need not be discussed here. However, it must be borne in mind that soil and situation have more to do with this plant than with many others. A hot summer, with a fair share of moisture, is necessary to bring it to perfection; while a wet, cold one, and the aggravated addition of a cold, bleak situation, is the worst it can have, the plant delighting in sunshine and a genial, moist atmosphere, and no plant being more impatient of cold, and none showing its effects in a more pointed way. Consequently, it cannot be cultivated out-of-doors until all danger from frost is over, which is not before the first week in May. Therefore, it is not prudent to sow before the middle of April, unless there be some means of affording the young plants a little protection; but even protection from frost is not all that is wanted, for the young plants cannot withstand the cold they are subjected to very early in the season; and when they are, with much trouble, saved from the effects of frost, they are often so stunted with the coldness of the atmosphere and soil they are growing in, that they are later than those sown some time after them. Therefore there is no real advantage in sowing them before the middle of April, except in very warm, early situations; and the Scarlet-Runner section need not be sown until the last week in April, as this plant, though quite as robust as most garden vegetables, when in good health and advanced growth, is very impatient of cold in its young state.

In general, the *Dwarf kinds* may be planted in drills, or rows, about two-and-a-half or three feet apart, and the seed dropped in about three inches from each other. An open, sunny situation is the most suitable, and although the ground for this crop ought to be good, yet it need not be too rich, otherwise rankness of growth, instead of fruitfulness, will be the result. Cover the seeds lightly, and take notice when they come up that slugs and other enemies do not destroy them. Should there be any danger of that, it is prudent to sow a little seed in some pan, or pot, to grow and plant out, to fill up any gaps that may be made in this way. *Scarlet Runners* may be treated in like manner; and in some situations, when these crops cannot well be planted so soon as stated above, it will often be found advisable to sow some under glass, to plant out when the danger of frost is over.

Although these useful vegetables are among the most common we have, yet they certainly are of the most delicate as regards being sensitive to cold, for the first frost in autumn destroys them as surely as it does the Ridge Cucumber, the Potato, and other things of that kind; besides which, it is liable to be attacked by Red Spider in hot, dry situations, and is not always fruitful in moist, cold ones. Nevertheless, with all these drawbacks, a good plot of Scarlet-Runner Beans affords a greater amount of useful food than most things; and it is on this account that it is so great a favourite with the cottager, whose means of calculating profitable returns is not to be despised, independent of it being a general favourite at table.

When opportunity offers, it is very good practice to sow a few pans of Early-forcing Dwarf-Kidney Beans in the middle of March, which, being placed in heat, speedily vegetate; these, on being planted out on some slight hotbed, with some rough covering over them, generally bear well, and come into use at least a month earlier than the out-door crop. I have found the old *Dun-coloured* come in quite as early as *Fulmer's Early Forcing*, which possibly arises from its being more hardy. When planted in a hotbed they may stand closer than when on the open ground, as it is advisable to make the most of such places; but it must be borne in mind that this object is sometimes defeated when too many plants are crowded into one place, and a choking,

spindling growth ensues, instead of that robust form which alone is the proof of good culture.

One of the best kinds for ordinary out-door culture is the *Canterbury Speckled*. There is also a *Liver-coloured* one very good. In fact, the quality of the crop often arises from other causes than the variety. Let it be borne in mind, that in dry, gravelly soils the produce is not so good in quality as in cooler soils, especially when the weather is very dry. In such cases, the watering-pot may be successfully used, avoiding hard spring water, and adding, where practicable, some litter-manure to the water, which will improve both the quantity and quality of the produce.

J. ROUSON.

THE BEST DAHLIAS.

IN accordance with your wishes, I forward you my opinion on the best thirty-six Dahlias which will be in growth for the season of 1856. The inducements held out, particularly at the Crystal Palace, will, no doubt, induce many growers and much competition; and if the few remarks I have made are attended to, I am persuaded the amateur will show a stand of flowers which will bear the test, and stand high in the awards.—JOHN KEYNES, *Salisbury*.

ARCHBISHOP OF CANTERBURY (Rawlings'), four feet; dark plum.—This flower was shown early in the season by Rawlings, and bid far to be good; but the locality of its growth produced thrip, which so disfigured its colour as to make it not showable in good ground, and well grown, cut out and shaded, it will prove very useful, and fit for any stand.

AMAZON (Holmes'), light-edged purple; three to four feet.—This useful flower requires good growth, and very little cutting out; rather quilly, and would be improved by being placed under a hand glass to bloom three or four days before wanted.

ADMIRAL DUNDAS (Lawton's), buff; four feet.—Requires moderate growth. Rather flat, but good centre; not to be cut out.

ANNIE RAWLINGS, four feet; lilac.—One of the best. Requires to be very much thinned; cannot be grown too strong, and the larger the flower the better it is. Keep this well cut out.

BEAUTY OF SLOUGH (Bragg's), light ground, edge purple; four to five feet.—Uncertain, but when caught very first-rate. This flower would be more likely to be showable if grown from a pot root or part of the old root. Not much thinning required; but semi-double blooms removed as soon as perceived.

CHAMELION (Rawlings), yellow, sometimes tipped with scarlet; two to three feet.—Requires to be much thinned, and will then be a very first-class flower. The buds will all fill, never coming semi-double. Keep well cut out.

DUCHESS OF WELLINGTON (Sainsbury's), light salmon; four feet.—This flower I saw growing at Mr. Sainsbury's; it is very constant, and requires cutting out. In a fine season it will be first rate; but cold weather will cause it to quill a little. The colour is beautiful, and it deserves a place in every collection.

DUETCH. The finest rose; four feet.—This flower was selected from thirty varieties sent me from France. It is, unquestionably, a very first-class flower, requiring no cutting out; always full; perfect centre, quite up; and one of the best flowers I know.

DUKE OF WELLINGTON (Drummond's), three to four feet.—So well known, requires no comment.

ESSEX TRIUMPH, four feet.—The finest dark flower we have yet, when shaded; cannot be dispensed with. Same remarks as the *Duke*.

EMPERESS (Proctor's), light ground, pencilled with lilac; three feet.—Requires no cutting out; a very certain show-flower; easy of growth; and everybody's flower.

ECLIPSE (Wheeler's), dark purple; three feet.—A very good, certain flower, well up in the centre, not quite so good an outline as I like; but its general character will ensure admirers, being easy of growth, and always making one when wanted.

FANNY KEYNES (Keynes'), buff, edged with purple: four to five feet.—Requires much moisture; which will well repay the grower, bringing up the eye, and producing a flower not easily surpassed.

GOLDSMITH (Keynes'), yellow; four feet.—Requires no cutting or thinning; rather late flowering; and early putting out. This is one of the gems of last year. I have grown it surpassingly fine. Very constant; but all must be left on the plant, and no disbudding at all.

LORD BATH (Wheeler's), crimson; three to four feet.—Good, useful flower, easily grown; will bear good thinning and disbudding.

LOLLYPOP (Holmes'), buff; four to five feet.—The centre of this flower is so good, and the outline so correct, must make it a flower very prominent in the stands. I should say it requires little cutting, and is very constant.

LORD RAGLAN (Dodd's), three to four feet; buff; very perfect.—Flower dull colour, and requires *much cutting out*. The centre is perfect, and the outline good, but will require good, extra growth. The larger the flower can be grown the better it will be.

LADY FOLKSTONE (Keynes'), light fawn, deeply tipped crimson; four feet.—Rather uncertain, but very fine when caught. Requires no cutting out, but removing the semi-double flowers as they appear. This flower will yet improve on last year.

LORD PALMERSTON (Turner's), crimson-scarlet; four feet.—Fine, large, bold flower, and will require but little cutting out; was shown very fine at one or two of the shows last year.

LILAC KING (Rawlings'), three feet.—When well done, the best in its class. Requires to be eased of the semi-double blooms very often; but will, several times in the season, send out a batch of deep double blooms, extra fine in every respect.

MALVINA (Howard's), three feet.—Very useful old flower; well known; always constant; no cutting required.

MRS. WHEELER (Wheeler's), dark crimson-purple; four feet.—This flower, at Crenorne, was shown in first-rate condition, and was one of the best seedlings there. I did not see it afterwards; but would safely recommend it to every grower.

MARSHAL PELISSIER (Dodd's), dark claret; three feet.—New colour. If this flower comes out, which is very doubtful, it will be a clipper, requiring no cutting out, easy of growth, and first-rate in every respect.

NE PLUS ULTRA (Rawlings'), light peachy-lilac; four to five feet.—Requires good growth; a little inclined to be low in the eye; a hand-glass would improve it, and place it one of the best in its class. Cut out well.

PRE-EMINENT (Fellows'), four feet; dark plum.—Requires no cutting out; a very first-rate flower, easy of growth; one of the best of last year; should be grown by every one.

PERFECTION (Keynes'), three feet; orange-scarlet.—The best flower ever yet raised; requires *very much cutting out*, and cannot be thinned too much always. Double, shape unapproachable; nothing can come near it yet.

RUBY QUEEN (Keynes'), four feet; bright ruby.—Must have all the growth possible, and be very much thinned and cut out; the larger it is grown, the better it will be. One of the best when well done.

REGINALD (Brown's), three to four feet; light fawn, with purple tip and shade.—A most beautiful model; requires, like *Fanny Keynes*, very much moisture; will then be very first-rate. A telling flower in a stand, catching the eye of every beholder.

RACHEL RAWLINGS (Keynes'), peach.—Requires good growth, but no thinning. One of the best.

SALVATOR ROSA, four feet; salmon-pink.—One of the foreign flowers, and will well repay the grower. A fine show flower. Keep cut out.

SIR J. FRANKLIN (Turner's), four feet.—Fine, old flower. Cut out very much.

SIR F. BATHURST (Keynes'), three feet.—Fine, old model; grow from a pot-root, or part of an old root. Cut out, and thin very much.

SIR CHARLES NAPIER (Turner's), three feet; red.—Fine, old model; grow like *Sir F. Bathurst* in every respect.

SILVER QUEEN (Keynes'), four feet; new colour, lilac, shaded silver.—Requires extra fine growth, and kept well

thinned. The larger it is grown the better. It will prove a very fine flower, and most constant.

TRIUMPHANT (Keynes'), four feet; crimson.—*Cut out very much*, and grow under glass to get the centre well up.

YELLOW VICTORY (Dodd's), three feet; the finest yellow yet offered.—Requires good growth. It is a seedling from *Yellow Standard* without its faults, being well up out of the foliage, very certain and perfect in every respect. If I know anything about Dahlias, this is the best yellow in the world.

Next week I will do my best to describe twenty-four fancies. I hope all errors will be forgiven; and if I differ from my neighbours, my opinions are original and genuine, without favour or affection.

THE DIFFICULTIES IN THE PATH OF THE YOUNG GARDENER.

I HAVE some time been a reader of THE COTTAGE GARDENER and COTTAGE GARDENERS' DICTIONARY, and have derived a large amount of pleasure and knowledge from both. I have read in the work first named an invitation for us young gardeners to show up a few of our thoughts. Though young, I am, and always have been, a lover of flowers, and would like to jot down a few of my thoughts, if only to have my faults pointed out to me, for that would be a real benefit. Then, my text I take from a back number, in which "Snowdrop" wishes to insinuate that young gardeners are so blinded by glare as to be unable to appreciate the deeper beauties of Botanical Floriculture, or, in his own words, "Botany has sunk greatly in the few past years. The rage for glare has, for a time, placed science in the shade. Ask the young gardener the classic name of the Rose of Jericho, &c." I much wonder he chose the *Anastatica Hierochuntica* to test the young gardener's botanical knowledge, for it is far from being a particularly interesting plant, and only met with in botanical collections. Surely he might have found a plant amongst our native flora that would have answered his purpose equally as well, and have given the young gardener a chance of answering him.

If amongst the young gardeners of Britain there are some dullards, as "Snowdrop" considered the many difficulties a young gardener has to surmount in his researches after botanical knowledge? I hope I may not be thought tedious if I tell him my own experience and troubles when young. I had the good luck to enter a nobleman's garden under what was considered advantageous circumstances; that is, for a certain sum of money I was to be employed for a term of years, and the head-gardener was to give me a thorough knowledge of his profession; and, so far as the practical part of it was concerned, he fulfilled his word, for I could dig and mow as well as the best of them, and nail a Peach-tree; but the theoretical part was what I most wished to learn, and that he was as fully determined not to learn me or any of the other young men; for, in fact, he threw every obstacle in our way he possibly could. No plant was allowed to have its name on its tally, but all were numbered, and the names, as he thought, secure from prying curiosity in his pocket-book; but one day he happened to leave it on the potting-bench—stolen knowledge, they say, is sweet—the temptation was too great to be resisted, and its contents were quickly transcribed by three or four willing hands. We revelled in our triumph; for the names of his stove, orchid-house, greenhouse, and conservatory plants were at our command. This was one step onwards.

But I wished to become acquainted with our native plants, and this wish was soon to be gratified in the following manner:—For some misdemeanour the under-gardener was discharged, and a new one came in his place. This young man had been brought up in the Botanical Garden of Glasgow, and also had opportunities of hearing Professor Balfour's lectures. We soon became friends, and my botanical studies as rapidly progressed. Not a wild plant within many miles of the place was left unexplored, and as quickly named; and very proud I was, if, after half-a-dozen miles, I was able to discover a fresh one. Through this kind friend I obtained "Loudon's Hortus Britannicus," "The Cottage Gardeners' Dictionary," "Hooker's Flora Scotica," and a perusal of

"Lindley's School Botany." He also stimulated me to obtain a knowledge of Latin and English grammar, and I do not think the village school master was ever more astonished in all his life, than when the youngster made this proposal to him to give one or two lessons a week. But he was a kind man, and the novelty of the proposition inclined him to do so on payment of a small sum. Some difference arose between the under-gardener, my friend, and his master, about this time, that caused his leaving; but my star was in the ascendant, for the new arrival had some knowledge of botany, and one more year passed away pleasantly, with my botanical knowledge improved, and my knowledge of the English language likewise.

Now I commenced the Latin, and though a dry study, I had a will and a tenacious memory, and I quickly advanced to the conjugation of verbs. But now a rupture ensued between my master and me, which ended in an open declaration of war. Candidly I told him, I could not any longer submit to his narrow-minded prejudices, but he would not change them, and the morrow's dawn saw me on my road to London with only twelve shillings in my pocket and seventy miles to travel. Half was accomplished the first day, and the next evening brought me footsore and weary into London, my scantily filled purse did not allow me long to remain idle, and two days after saw me engaged in a large nursery at ten shillings per week.

I would ask "Snowdrop," now, whether the young gardener's attention be drawn more towards the increase of wages than the study of botany? Hitherto, the cost of my botanical propensity and maintenance was defrayed out of nine shillings per week. I hope I have shown him ("Snowdrop") a few of the difficulties the young gardener has to contend with in obtaining botanical knowledge, whilst the glaring plants, with their glaring names, are daily before his eyes, botanical rarities have to be hunted out of their glens and mossy banks; and whilst botany costs money out of his limited income, the glaring name may be learnt for the trouble, and frequently places him as high in his employer's estimation as the man of Linnæan orders.

I am afraid I have taken a circuitous route to show "Snowdrop" the difficulties his neighbour, the gnarled Oak, has to contend with in his upward growth, and I should say, that the Snowdrop, securely cradled in his mossy bed, knows not the difficulties of the Oak's "upward and onward."

Finally, after this digression, I would say of my friends, one is in India superintending a spice plantation; and two of them have responsible situations. Myself, the last and youngest of all, after many disappointments, have obtained a comfortable situation and liberal master, and I have no cause to regret being—A YOUNG GARDENER.

P.S.—If it would not be a waste of time, I could say a little more about the wants of young gardeners.

[We shall be most happy to hear from you on this very important and interesting subject.—ED. C. G.]

THE HOUSEHOLD.

ONION BRULLÉ.—Many bushels of Onions are thrown away at this season as useless from their commencing to grow. They may, however, be saved, and converted into that delicious condiment, called by the French "Oignons brullé," and are sold (or were, for I make all I use now) in London, at 2s. per pound. By simply stewing them in an ordinary stewpan, in their own liquor *only*, and when of a rich brown colour, and the liquor a thick syrup, they must be dried off in a gentle oven until the syrup is absorbed by them. They should now be of a dark brown, or nearly black, and should be packed close in tin canisters.

CELERY LEAVES FOR SOUP.—Cottagers who cannot readily procure manure to grow Celery, may, however, enjoy the flavour in their soups by simply growing a few plants, and treating it as they would Parsley, by stripping off the leaves. I have myself adopted this, and my cook is never without Celery to flavour her soups, stews, &c.—SAMBO.

DEATHS OF MR. G. DON AND MR. D. GORRIE.—We regret to have to record the death of both these gentlemen, so well known to the gardening community. We hope to give biographies of both of them in our next number.

DORONICUM AUSTRIACUM.

I HAVE grown this early-blooming plant several years, and always consider it an excellent *bedding* one. I am glad to see it noticed as such by Mr. Beaton. The first time I saw it was in a cottage garden, and I begged a patch of the plant; for I knew, by its close growth, and bright yellow, daisy-like flowers, about the size of a half-crown, that this neglected plant was worth looking after. As Mr. Beaton observes, it is easily propagated, and has done blooming in time to be removed to make room for something else.

It may be taken up in large patches, and planted in a spare corner until the end of the season, when this hardy favourite may again fill its former place with fresh vigour to cheer us with its golden blooms, regardless of our March winds, while the more gandy things, for which it was turned out, are cowering down in a hotbed.—J. WIGHTON, *Cossey Hall*.

INDIAN CORN.

IN answer to many inquiries, we publish the following:—

"Professor Johnston, in his 'Chemistry of Common Life,' states, 'That Indian Corn resembles Wheat in composition and nutritive quality. The chief peculiarity in its composition is that it contains more oil or fat than any of our common grains. This oil sometimes amounts to nine pounds in the hundred, and is supposed to impart to Indian Corn a peculiarly fattening quality. The average relative proportions of gluten, fat, and starch, contained in fine wheaten flour, oatmeal, and in Indian Corn, are represented by the following numbers:—

	English fine Wheaten Flour.	Bran of English Wheat.	Oatmeal.	Indian Corn.
Water.....	16	13	14	14
Gluten	10	18	18	12
Fat	2	6	6	8
Starch, &c.....	72	63	62	66
	100	100	100	100

"The large proportion of fatty matter contained in Indian Corn not only adapts it well for fattening, but makes it more grateful to the alimentary canal, and therefore more wholesome."

"The best mode of preparing Indian Corn flour for bread is to boil it into thick porridge, and when cooled down to about the temperature of new milk, it must be well mixed with the sponge, which has been previously set with wheaten flour only, and no water added."

"Bread made from two-thirds wheaten and one-third Indian Corn flour is of excellent quality, and is generally preferred to that made from wheaten flour alone."

"Indian Corn-meal can also be used to great advantage instead of oatmeal or barley for making porridge or cakes."

This recommendation was published by Messrs. Carr and Co., of Carlisle; but as they are dealers in Indian meal, we thought it would be satisfactory to have their statement sustained by some disinterested evidence, and this, we think, is afforded by the following extract from a private letter:—

"Whilst I was in Port Natal, we invariably used it with Wheat flour for bread, which it very much improved and cheapened; for Wheat flour there was never less than 39s. per barrel (American), and often 50s. to 54s.; and Cape flour 4d. to 5d. and 6d. per pound: whilst Indian Corn (which we could grow) could be bought of the Caffres for 1s. a basket, containing 40 lbs. And we are *now* using it in all our bread, and prefer it very much to bread made with all Wheat."

"In the summer of 1850, I emigrated to Port Natal, for

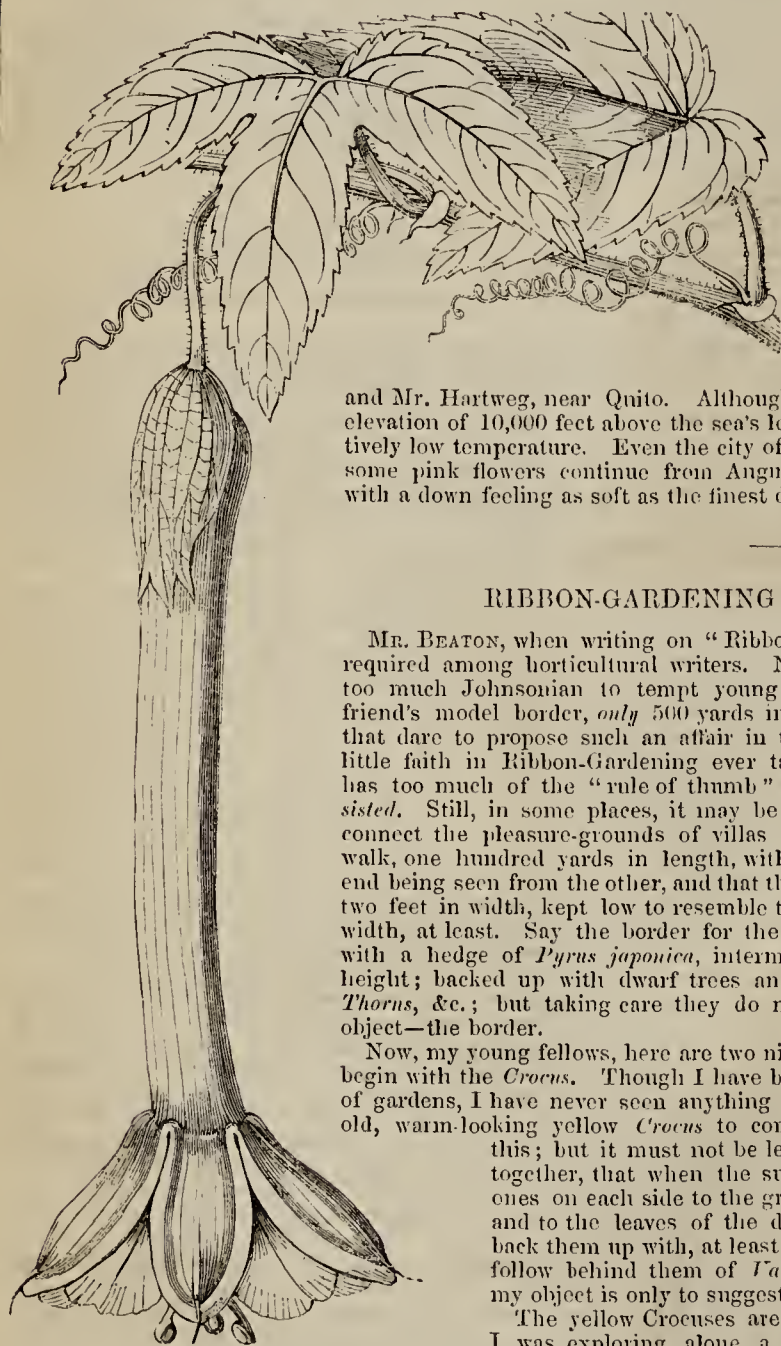
the purpose of growing Cotton, which turned out an entire failure. The plant grew amazingly, but not one pod in fifty came to anything. I had trees, ten months old from sowing the seed, that were eight feet high and ten feet in

diameter, and full of blossom. It is there a perennial.—JOHN ECROYD, *Edgend, near Burnley.*

"P.S.—The thermometer during the night of the 28th was at 14°."

TACSONIA MOLLISSIMA.

(SOFTTEST-LEAVED TACSONIA.)



THIS most beautiful of climbers for a warm wall, conservatory, and cool greenhouse, has been so often recommended by us that, although not a very new plant, many of our readers will be glad to see a portrait of its blossom. Its cultivation, and the cultivation of *Tacsonias* generally, is given by Mr. Beaton very excellently in our 267th number.

The name of the genus is derived from *Tacso*, the Peruvian name of one of the species. It belongs to the Natural Order of Passion-Flowers (*Passifloræ*), and to *Monadelphia Pentandria* of the Linnæan system. It was found by Humboldt and Bonpland, at the very commencement of the present century, growing near Santa Fe de Bogota, and by Mr. W. Lobb,

and Mr. Hartweg, near Quito. Although a native of the tropics, yet it grows there at an elevation of 10,000 feet above the sea's level, and hence is capable of enduring a comparatively low temperature. Even the city of Santa Fe is 8,727 feet above the sea. Its handsome pink flowers continue from August till October; and its leaves are densely covered with a down feeling as soft as the finest down. It was introduced into this country in 1844.

RIBBON-GARDENING AND YOUNG GARDENERS.

MR. BEATON, when writing on "Ribbon-Gardening," tells us that young blood is much required among horticultural writers. No doubt of it; but our Lion appears to me rather too much Johnsonian to tempt young volunteers. Just fancy the dimensions of our friend's model border, *only* 500 yards in length! Where is even the landscape gardener that dare to propose such an affair in the most extensive places? Now, though I have little faith in Ribbon-Gardening ever taking the lead—though I allow I am no judge—it has too much of the "rule of thumb" work in it to take my fancy. Give me *Nature assisted*. Still, in some places, it may be advantageously applied where it is necessary to connect the pleasure-grounds of villas with the kitchen-garden, say an eight or ten feet walk, one hundred yards in length, with an easy, gentle curve, sufficient to prevent one end being seen from the other, and that this walk is bordered on each side with Box, at least two feet in width, kept low to resemble turf, or turf itself; only, if the latter, double the width, at least. Say the border for the plants is twelve or fifteen feet wide, backed up with a hedge of *Pyrus japonica*, intermingled with *Cotoneaster microphylla*, four feet in height; backed up with dwarf trees and shrubs, with a profusion of *Laburnums*, *Scarlet Thorns*, &c.; but taking care they do not intrude with their roots or branches on your object—the border.

Now, my young fellows, here are two nice little borders for you to work upon. Suppose I begin with the *Crocus*. Though I have been a good many miles in my time, and seen lots of gardens, I have never seen anything that I fancy would look half so well as the good, old, warm-looking yellow *Crocus* to commence the season with in such a border as this; but it must not be less than one foot in breadth, and the bulbs so close together, that when the sun opens their flowers they will push the outside ones on each side to the ground, or, rather, to the Box or Grass on one side, and to the leaves of the double blue *Hepatica*, which I should propose to back them up with, at least another foot in width; and, say, another foot to follow behind them of *Van Thol Tulips*. But I must not go any further, as my object is only to suggest a beginning.

The yellow Crocuses are not an imaginary affair. Some forty years since, I was exploring, alone, a wild, romantic dell within a hundred yards of where Charles the First was born, and within five hundred yards of the bones of King Robert the Bruce, when all at once appeared before me an old, neglected grass walk, that, apparently, might have been there in Malcolm Can More's time, with broad borders on each side of yellow Crocuses. I was astounded. Had one of the Monks of olden times appeared, I could not have been more surprised; in fact, not so much, for I had just emerged from the scenes, the dark shades of which a Rembrandt could so well pourtray; and here I was in the midst of what a Titian or an Etty would have been delighted with, and I shall never see their like again.

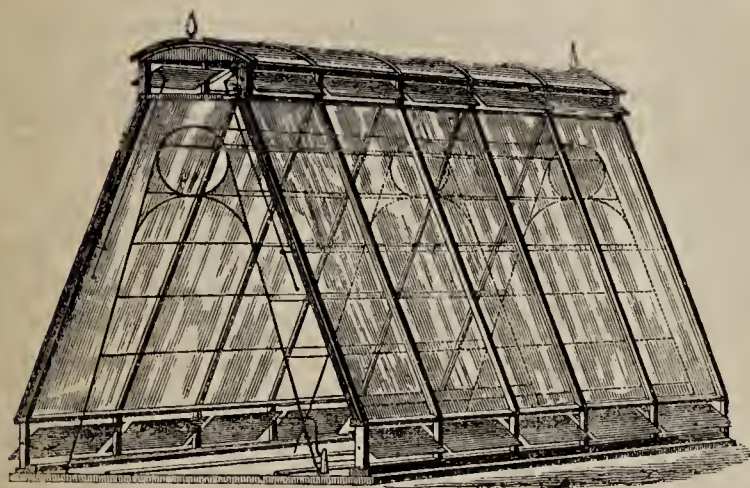
But I am forgetting my "rule of thumb" work. Well, take, for instance, to commence again with, one foot of common yellow *Primroses*, backed up with one foot of double red *Hepaticas*, and at the back of them one foot of double blue *Crocuses*, and so on with the others. It may be said, What can we do with the leaves of these Crocuses a foot in width after the flowers are gone. They belong to the homebirds, and don't like to be disturbed? Why, nothing easier; when they get too long for you, begin at one end, and plait them as the ladies do their hair, keeping them, of course, close to the ground; they will, if well done, look interesting (not quite, perhaps, so much as

plaits we have seen on each side of a pretty face); and when the Hepaticas, Tulips, &c., are removed, a row of *Verbenas*, *Flower of the Day*, and *Mangles' Silver-bedding* Geraniums can be planted close to the Crocuses, which will form a nice bed or foreground to the former. Until they are established, as the summer plants might be planted double the distance apart, they would allow for numerous varieties of bulbs in this way to remain after the spring flowers were taken up. What a fine show two rows of the *Scarlet Marlagon* Lily would make; and so would some of the varieties of the

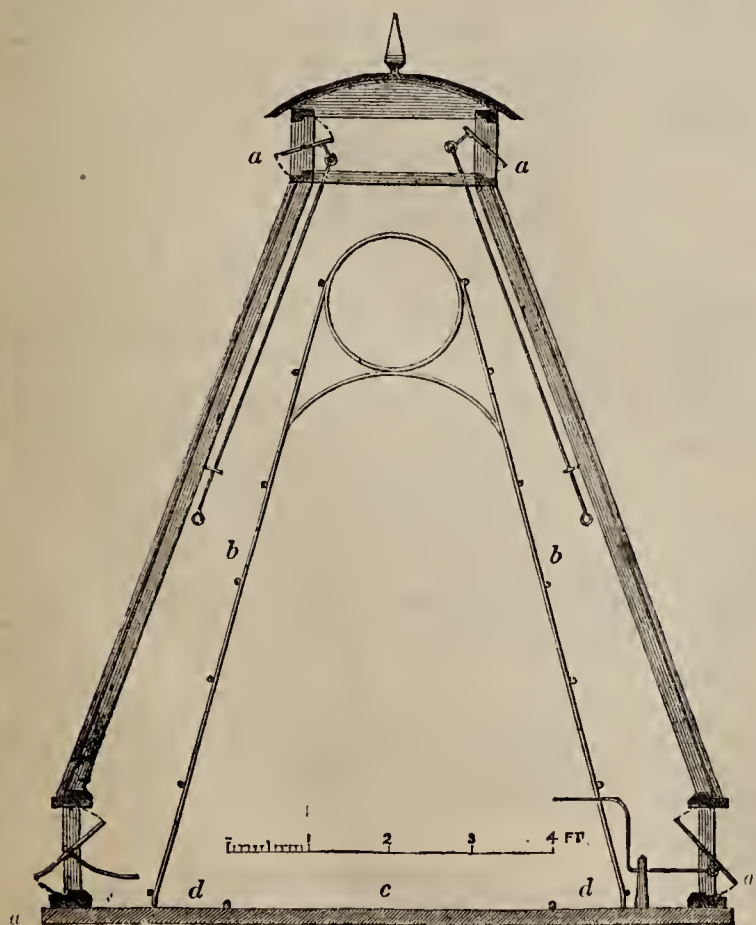
Alstromerias and *Gladioluses* in an arrangement of this sort.

But I am again encroaching upon your ground, and will conclude, with the hope that you will not be afraid to show even Mr. Beaton, the lion in this way, how nicely you can arrange the *Tom Thumbs*, *Flower of the Day*, &c. And why not the ladies try their hand at this? We must allow they surpass even so great a personage as a gardener in contrasting and happily blending colours together, to leave the most fastidious eye with nothing to complain of or crave after.—D. FERGUSON, *Stowe, Buckingham.*

MOVEABLE GREENHOUSE.



[PERSPECTIVE VIEW.]



[SECTION.]

a, a, a, Ventilators; b, b, Wire trellis for training trees on; c, Path; d, d, Borders.

SUCH a structure is often desirable for a tenant who has an unreasonable landlord.

"Mr. Spencer, Gardener to the Marquess of Lansdowne, at Bowood, is the inventor of a moveable span-roofed Glass-house, of the appearance and construction of which some idea may be gleaned from the annexed figures.

"Concerning this contrivance Mr. Spencer says:—'I think it will be a preferable structure (in several important particulars) to Mr. Ewing's newly invented glass walls for growing some kinds of fruits. The model in question is similar in some respects to the one proposed by Mr. Rivers in the Gardener's Chronicle, but I think it will be found an improvement so far as regards the ventilation at top and bottom. I should propose this kind of case or house to be placed due north and south, and the ends should be glass, particularly the south one; when glazed I propose placing strips of vulcanized Indian rubber under a bead that will be screwed down over the glass, which is laid flat on the rafters. It will be perceived that buildings of this description may very easily be taken down (the bars, &c., being numbered for the purpose), and the woodwork and glass packed away in a small space, and as easily refixed in spring, or when wanted. The size, or rather width may likewise be increased for the growth of such things as vines and figs, requiring larger space for their leaves.' Mr. Spencer then adds:—'Since writing the above I have seen Mr. Rivers's opinion on glass walls. I think, with him, that they will not be a protection (regarded as a fence); and this will bring them to be considered merely as structures for growing fruits, when I feel confident that the simple and easily constructed houses which the model represents will have great advantages in more ways than one, part of which are—the ease with which they can be ventilated, cheapness of erection, and the facilities for training and managing the trees grown in them. The opening of the bottom ventilators, which all move at once, is imperfectly shown in the model. A wheel, with three or four cogs and a pulley or two, would be an improvement.' It was observed that such a house would, no doubt, be found useful for many gardening purposes, but that it could not be compared with glass walls, on account of the dissimilarity of the purposes they were severally intended to answer."—*Horticultural Society's Journal.*

QUERIES AND ANSWERS.

GARDENING.

PLANTS FOR A GRAVE.

"What kind of flowers or shrubs would look best for the grave of a young lady? It may, perhaps, have a head and foot stone in the shape of a cross. The turf kept close round, and willow

wands in scollops round it. The grave will have an open aspect to the south in a sheltered cemetery, soil about eighteen inches deep, dark loam, and a deep bed of gravel underneath.—A SUBSCRIBER, *Oxford*."

[Evergreens are the only shrubs suitable for graves, and of them the *Few* is the best, as it is the easiest to keep within the smallest space. The moment it, or any other, gets too full, or encroaches on the space, it should be removed and a younger one put instead of it. *Holly* is the last plant we would plant at the head of a grave, and we would only plant *at the head*. We would plant only *White* flowers on a grave, and either drooping flowers, or such as opened only when the sun shined. Such flowers as come before the leaves we also prefer. We have a meaning and a reason for the choice, but this is not the place to explain them. For the grave in question, the following flowers and arrangement would be suitable:—Three bunches of pure *White Crocuses*, in the form of a star, and six or eight inches apart on the head of the grave. These will remove now in bloom, and one kind, called *Queen Victoria*, is the dwarfest and best for the purpose. At the foot we would plant three similar bunches of the lightest autumn *Crocus*, which is a *lilac*. In the centre, between the spring and autumn flowers, we would plant one plant of the *Christmas Rose*, which will remove now before it dies down for the season; and on each side, close to the level of the ground, we would plant a row of the *Snow Flake*, putting the bulbs four inches apart. These are all permanent, but give place to summer flowers by dying down at the end of spring; and for summer flowers we would allow free scope to individual selection, merely remarking that no flower is too good for the occasion.]

TEA-SCENTED ROSES IN POTS.—PRUNING CAMELLIAS.—THRIPS.

1. "I have, in my greenhouse, with many other things, some *Roses in pots* (the Tea-scented ones especially), which put forth such exceedingly tender shoots that the buds not unfrequently fall off without blooming. Are there any means, under the circumstances, by which I can cause them to grow strong enough to bloom well? The house contains *Camellias*, *Cinerarias*, *Pelargoniums*, cuttings of various things, &c.

2. "May I prune *Camellias* that have become rather straggling, and if so, when?

3. "I have raised seedlings from the seeds of *Pink Thorns*, but am told they will not bloom like the parent trees—Is it so? If it be, may I bud them from the old trees?

4. "Some insects, whose description I cannot come across in *THE COTTAGE GARDENERS' DICTIONARY*, have presented themselves in a pan of seedlings. They are of a brownish colour, a good deal like the mould, about the one-twelfth-part-of-an-inch long, and when touched will jump several inches. I have sprinkled the surface with soot, but they do not seem to mind that. When magnified, the body presents many bluntish protuberances.—G."

[1. The *Tea Roses* will do very well at this season in the same house with *Camellias*, *Cinerarias*, &c. At an earlier period, to produce good flowers, they would require an average temperature of from 50° to 53°, with a sufficiency of air. This extra heat and air, while it keeps the shoots short, enables you to make them strong by a manure-watering now and then. You will see that those you put into the house now will do better, if the roots are right, and they enjoy an open position.

2. *Pruning Camellias*.—Do this as soon as possible after the flowering is over. They can be cut back with the greatest safety, especially if at all healthy, and you do not cut back to wood above one or two years old. When the wood is a number of years old there is more care wanted to get them to break freely. As soon as pruned back, remove the plants into a temperature of 60° to 65°, or as near 60° as possible; and, without saturating the roots, keep the stems and atmosphere about them as moist as possible. If the pots are set on a sweet hotbed all the better. For very old plants, a temporary structure could easily be contrived for such a purpose.

3. You have been told quite correctly about the *Thorn seedlings*; but you may have some varieties. You may either bud or graft on these seedlings, but common *Thorns* will suit equally well for stocks.

4. We are afraid you have got the *Thrips*, and there is no worse enemy. If so, there will be some shiny places on the under side of the leaves. Smoke the plants several times with tobacco, and syringe repeatedly with clear lime and sulphur water, containing a little dissolved size. If too small to syringe, draw a sponge over the leaves. We have cleared large leaves, such as *Cucumbers* on a trellis, by pressing a wetted finger on every one we saw before he had the chance of jumping. Lose not a moment, for if once the *Thrips* gets ahead, you will have trouble enough before you for a season.]

GREENHOUSE IN A SHADED TOWN YARD.

"I am the owner of a house situate in one of the streets of this town (Great Yarmouth), in which I am about to reside. There are two large yards, one of which is entirely useless to me; and as I am fond of flowers, a thought struck me that I might, with your kind advice, erect a small greenhouse or conservatory upon it.

"Being enclosed by buildings, there is very little sun reaches the yard, and that principally in the early morning and afternoon, but of light and air there is plenty.

"The wall against which I should erect the building faces the south, and is about eighteen feet long, and twenty-six feet high. Expense is no object.

"Please say if the house would be better built entirely of glass, the shape, and how it ought to be heated.—T. O. N."

[You do not state the size of the yard, or how far south you can bring the house. The length of your wall is eighteen feet, and if the space was limited in front, say ten or twelve feet wide, you could have a lean-to roof, and glass at front and both ends, above a dwarf wall; or you might have a short-hipped roof to the north, joining a longer one to the south, and thus realize the benefits of a low roof, and a low stage inside, as mentioned the other week. If your space to the south is twenty or thirty feet, or more, then your best plan would be to have a span-roofed house the north end the wall, the east and west sides and the south end glass, above a dwarf wall of two or three feet in height. This form will give you most sunlight, as the sun visits the spot chiefly in the morning and afternoon. I am presuming that you do not require to raise the highest part of the roof above ten or twelve feet in order to catch the sun's rays. For laying out such a house, see Vol. XV., page 422. For such a situation, British plate glass should be used for the roof, and crown glass for the sides. If used as a greenhouse, soft-wooded plants, as *Pelargoniums*, *Scarlet Geraniums*, *Cinerarias*, *Calceolarias*, *Fuchsias*, &c., would answer best, with *Camellias* and *Primroses* for winter, and *Chrysanthemums* for late autumn. Having once gardened in the midst of smoke, we found stove plants were easier managed than greenhouse ones, as they required much less air, and, therefore, the blacks were excluded. A free use of the syringe helps all plants wonderfully in towns. In smoky places, the *Ferns* and *Mosses* can also be grown nicely, because they require less opening of the sashes than flowering-plants in general. Any early flowers will do for the border in spring, and *Geraniums*, &c., for summer. If the house could be heated from the kitchen range it would be an advantage. If not, the best plan would be hot-water by a separate boiler, as expense is no object. You would notice, the other week, a good deal said of various modes of heating. When you have made up your mind as to the kind of house, and told us how you are otherwise situated, we will advise farther, if necessary.]

TO CORRESPONDENTS.

ROCK PLANTS (*W. Thomas*).—We are informed that there is such a book as "*Lothian's Treatise on Alpines and Rock Plants*," published by Messrs. Highley, London; but we have never seen the book.

HERBERT'S PASSION FLOWER.—A Regular Subscriber cannot meet with this flower. In what Nurseryman's Catalogue does it occur?

WEEKS AND CO.'S BOILER (S. C. L.).—We believe it is patented. We do not know where it is made.

A. T. writes thus:—"These appear at the joints where the shoots are."—Joints of what?

FORCING VINES (A Young Subscriber).—We do not quite clearly see through your process. We presume you had enough of light during the last days of March in your house. The state of your Vines shows that you had pretty well enough of that element, heavy though your roof be. *Hamburgs* and *Sweet-waters* may be forced at any time after autumn, though the roots be placed outside; but in proportion to the earliness, is the necessity of warming the border by a covering of litter, and keeping off heavy, cold rains. Vines planted in May, 1853, cut back to two buds in autumn, allowed to run the length of the rafters in 1854, should not have been fruited their whole length in 1855. A third, or, at most, a half, of that length would have been sufficient pruning the shoots back to that space. We have done so, and the Vine has felt the effects for years afterwards. We have had fruit in pots on rods sixteen months from the bud; but if many bunches were taken, it was no use trying that plant the following year. If we understand you aright, you did not take a great deal of fruit, and that you got from the higher buds. This moderate cropping has, no doubt, so far saved your Vines; as if they threw two shoots from a bud, it shows they are not deficient in vigour. You had better not remove any of these shoots until you see how they show, and then you can allow one or two to remain, just as you can find room for them. Most gardeners, unless they want wood, leave only one. Mr. Fish's remarks apply to Vines planted outside as well as inside.

FUNGUSES IN CUCUMBER SOIL (H. H.).—We presume that you have got funguses rising from your dung, which frequently appear if the dung is extra moist. Work in a little quick-lime in the places where they come, and that will, ere long, do for them. If they appear in your soil, you had better re-pot the Cucumbers, and get fresh soil, and look carefully over it before using, and see that there are no white thready substances in it, the spawn of these nasty funguses. Clear lime-water will destroy the funguses in the soil, as well as in the dung; but at this season, unless the plants are strong, a strong watering of lime-water might injure them. If the funguses only appear among the dung you will soon get quit of them; they soon render a confined atmosphere unwholesome to other plants. Try and leave a little air, even at night, until you get rid of them. We have sometimes been annoyed with lots of the common Mushroom coming where they were not wanted. The whole fungus brood hate quick-lime. We once had a bed of Mushrooms destroyed by a watering for killing slugs.

HEATING A GREENHOUSE FROM A CELLAR (W. R.).—There is not the least difficulty in your case as respects the greenhouse thirty-five feet from the cellar. A very small boiler would send the heated water that distance. For the various purposes, you would require a conical or saddle-backed boiler that exposed five or six square feet to the fire. The distance to which the heat can be conveyed depends not so much on what the boiler contains as the surface it exposes to the heat. You would see, at Vol. xv., page 306, that the range of the powerful boiler at Messrs. Weeks' is limited. One of the smallest they manufacture would be large enough for you. Is there any thing to prevent your having propagating pits over part, or the whole, of the thirty-five feet the pipes traverse before reaching the greenhouse? There you may have top-heat and bottom-heat at will. But in such a case, it would be advisable, by stop-cocks, &c., to be able to heat these pits without heating the greenhouse. We are afraid there will be some difficulty in your mode of heating the entrance hall, if it is essential to keep the cellars in a cool, equal temperature. However bound the pipes may be, the boxes will crack and open from the heat, and thus the heat will escape, less or more, into the cellars. If there should be any difficulty in this, the pipes could go into the entrance hall at once, and might be rendered ornamental as a plinth round the walls, or set up as ornamental fluted pillars or pilasters. The mode contemplated would, no doubt, be the simplest, all things considered, provided all escape is prevented. Would, however, the extreme drying of the joists have no tendency to impair their strength in time?

FIRS TO HIDE BUILDINGS, &c (L. M.).—The quickest growing kinds of Fir to hide out-buildings and unsightly objects are the common *Spruce*, the *Silver Fir*, and the *Scotch Fir*. If the unsightly object is below the level of the eye, or much above the level of the eye, plant thickly, and afterwards "make up" the bottom with Laurels, Hollies, and Tree Box; but if the object is on a level with the eye, or nearly so, plant thinly, or wide apart, and put in more rows, and let the trees be as tall as you can get; but let the piece of ground he first trenched. Pit planting seldom answers well for this kind of planting.

PORTUGAL LAUREL LEAVES (Salopian).—The appearance indicates poverty at the roots. They have reached something unsuitable to the trees well-doing. We have had many instances of this kind in our garden where soil is poor and very light, although they do not do so well in others.

NAME OF PLANT (Clericus).—The plant enclosed is the *Scilla præcox*, one of the prettiest of our hardy border plants. We know of no plant by the name of *Callacanthus*; but there is *Calycanthus*. For instance, the *Calycanthus floridus*, which is commonly called the Allspice, an ornamental hardy shrub; also, *Calycanthus præcox*, now called *Chimonanthus fragrans*, a most desirable hardy shrub for training upon a south or west wall, where its delicious-scented flowers are produced in abundance in December and January.

ERROR.—In the ground-plan of the Sheffield Camellia House, at page 8, there is a mistake in the references. Letter "E" is said to be "Asphaltate;" it ought to be "Glass uprights." Letter "C" is described, "Glass uprights;" it ought to be "Asphaltate walks."

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and Aug. 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close April 30th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Littlefield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray.

HULL AND EAST RIDING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec. Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec. Richard Hawksley, jun. Entries close November 19th.

PARIS. May 23rd to June 7th. Sec. M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

WHARFDALE. April 18th, at Otley. Sec. Mr. T. Metcalfe, Otley.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

N.B.—Secretaries will oblige us by sending early copies of their lists.

THE BENEFICIAL RESULTS OF POULTRY EXHIBITIONS.

MANY who, a few years since, became converts to what was then termed the poultry mania, and who imagined it was merely the fashion, or whim, of the moment, have formed by their connection with it valuable and valued friendships. It has done much to dissipate our national *ennui*, and November, the month of *ennui's* reign, has now become one of exertion. Entries, shows, and correspondence fill up the dreary time. Above all, the latter item is important, and government could well afford to give a Queen's Plate at every poultry show to encourage exhibitions, on account of the increased postage they cause, just as they did to improve the breed of horses. This may appear random writing, at first sight, but the postmen of poultry districts, and the secretaries of shows, could furnish statistics that would astonish unbelievers. Few, even among amateurs, are aware of the extent and continual growth of the poultry movement.

We are often asked to visit our readers and brethren in the pursuit. Believing as we do, that most of them are naturally among the best of our race, and that all are improved by it, we gladly avail ourselves of the invitations whenever our scant leisure will allow. An egg of unusual dimensions generally adorns some part of the ordinary sitting-room, Silver Cups decorate the side-board, and Medals lie on the drawing-room table. Past exploits and disappointments, and future hopes and prize-lists, provide a never-ending topic of conversation. This for the evening of our arrival, and then the appointment is made for the inspection, in the morning, of the pets that are destined to figure in "the triumphs yet to come."

It is one of the paradoxes of the pursuit, that while the owners of thousands of acres often lament their inability to keep more than two breeds, because they have not space to keep them separate; yet the occupier of a large garden and small meadow will keep half-a-dozen in perfect health and condition.

There is, generally, one part of a good-sized garden which is of little use or profit. This we have constantly found devoted to poultry, and those who have not yet done so, may see how easily it is accomplished. Houses built of boards, covered with thatch; each nine feet long by six wide, six feet high, perches two feet from the ground, and openings for ventilation immediately below the thatch. Laying boxes inside. A space laid down with grass in front of each, fifteen feet long by six wide, the whole enclosed with netting either of string boiled in oil, or galvanized wire, and fronting the garden. We would not have it less than six feet high, because it is sometimes necessary to go into the pen to pursue a critical examination of the inmates,

and it is difficult to do so if you cannot walk upright. Besides, all amateurs and judges are not young, and a bending position, however natural to Sir Perinax McSycephunt, is not a convenient one for those who have passed forty-five years. Say in each such compartment a different breed, Polands, Hamburgs, Brahma Pootras. A broad gravel walk in front enables visitors of the fairer sex to view them at all times and all weather, and those who have not seen it have no idea how beautiful the birds look on their carpet of turf. This may appear ridiculous to those who can command separate places for every pursuit; but as the rich are the minority, and we have lately had the opportunity of seeing what we describe, we recommend the plan to our readers.

We also think we can indicate another pleasure. We will not ask our readers to do all that it is required for poultry, such as cleaning out houses, &c., but we will ask them to see that it is done. They will be benefited every way. Their feathered stock will gain by it in condition, and they will gain in health. These thoughts struck us lately, when we heard a young and accomplished lady say, immediately after breakfast, and when the east wind was blowing spitefully, that she *must* go out to see to her poultry; and when we saw her, glowing with health and exercise, attending to them, and watched the anxiety with which each pen awaited her coming, we felt assured the birds were not the only gainers. These advantages are, in some measure, dependent on having the pens where they are easily accessible with dry feet.

Much real knowledge is lost by many people who thirst for it, because they cannot overcome the false shame of appearing ignorant, or because they will not trouble others with inquiries. This relates to important matters; but as no one is ashamed to plead ignorance in a new and apparently trifling pursuit, they do not hesitate to ask it on poultry, and thereby overcome the feeling that has been an incubus to them for years. In many cases, such trifling inquiries have led to lengthened correspondence, and that which began in the disease of a chicken has ended in positive science.

Most people who keep poultry live in the country, and there are times when the weather will not permit out-of-door pursuits, and when, perhaps, the time would be heavy; but the arrears of correspondence here step in, and afford an actual occupation which must of necessity be followed. Houses that a few years since seldom saw the postman, now receive their four or five letters daily. Some are from strangers, some from mere acquaintances. Many of these ripen into friends.

Thus we think the poultry movement is favourable to health and the better feelings of our nature. It gives employment, and promotes good feelings. It is invaluable as a pursuit for children, for it humanizes and instructs them, and we are sure none will ever regret the daily hour devoted to it.

RABBIT KEEPING.

IN Rabbit keeping, as in many other things, there are several modes of procedure, which may, I think, be reduced to the three following plans:—

First, where it is desirable to keep them entirely for killing, either for sale or home consumption, in which case, I think the enclosed court, or warren, is the best, being the least trouble, and making the greatest return for the least expenditure.

Such a place may be of any size, according to the wants or intentions of the keeper; but it should be on a dry soil; a sandy bank, with southerly aspect, will be the most proper. It should be well fenced or walled round to keep in the Rabbits, and also to keep out dogs, cats, and other enemies. It should have a number of shrubs or bushes for shelter, and be well supplied with herbage. The Rabbits must not be allowed to become too numerous, and, above all things, the bucks must be reduced to the lowest requisite number. In a small collection to one in ten or twelve; in a larger, to five or six per cent. To keep up the health, strength, and fertility of the warren, I should advise the catching of all the Rabbits every autumn, which may be easily done if the

court is not too large. Then return the requisite number of young does, and to procure fresh bucks, every year, by which means there would be no fear of degeneracy. In addition to the natural herbage of the warren, a little hay in winter, and the refuse of the kitchen-garden in summer, is all the attention they would require.

The second plan is that most generally in vogue, of keeping them in hutches in some stable, or out-house; and many people think any place is good enough for a Rabbit; but if they wish to rear fine, healthy litters, this is a great mistake; for this purpose, the hutches must be airy, well ventilated, and cheered by the sun's rays. The hutches, too, should be roomy, the larger the better; a false bottom is a great improvement to hutches that are placed one over the other. Rabbits are very cleanly animals in themselves, and if their hutches are not kept clean they are very liable to disease. I have never known them to have any external vermin; but they sometimes have internal ones, as worms and flukes, which, I believe, may be prevented by the occasional use of a little salt in their food.

In feeding Rabbits, regularity, cleanliness, and an abundant supply of wholesome food, are the chief things needful. A little sweet hay, a few good oats, or a little pollard with a small quantity of salt mixed in it, are excellent condiments to their usual green food. In winter, when green meat is scarce, I find such root as carrots, kohlrabi, Swede turnips, and Jerusalem artichokes, the best moist food; but Rabbits will eat a great variety of green food, and, I think, with regularity, and fresh air, they cannot have too much. I would, however, here give one caution; that is, if any one obtains a Rabbit that has, for a great part, or, perhaps, all its life, lived on a very small amount of green food, possibly hardly enough to supply the necessary amount of moisture for its natural well being, to give such an one an unlimited allowance of green food would, most likely, prove fatal to it; but if the allowance is gradually increased, no fear need be entertained. I hardly know what plants a Rabbit will not eat; but it would be unwise to offer them any of the plants known to be poisonous. I am also inclined to think, that the leaves of the white or garden turnip are too relaxing for young Rabbits, and think they prefer carrot top, parsley, celery, lettuce, garden pinks, and the leaves of Sun-flowers and Jerusalem artichokes, though scarcely any garden refuse comes amiss to them.

In breeding them, save your finest and handsomest young does of the current year for stock the next, and procure a good buck not related, by which means you avoid degeneracy, and get a strong, hardy, and handsome stock. If you are breeding fancy Rabbits, select from your own stock such does as have ears topping naturally, for they are much more likely to produce lop-eared young ones than such as are made to lop artificially.

When a doe litters, or you suspect her to be about to do so, let her have a little bread and milk, or, at any rate, a pan of water, as after parturition, particularly when the milk first comes, it causes great thirst, and the poor animal, incapable of obtaining, as she would do in her wild state, abundance of dew, or moist food, is compelled to eat her own young to quench her burning thirst.

It is, I believe, a popular error to suppose that a Rabbit never drinks, though, like the sheep, and other herbivorous animals, they can subsist without water if they have an abundant supply of succulent food. On the other hand, if they have an abundance of green food, and are kept in a damp, ill-ventilated place, where evaporation does not freely take place, they then become liable to many disorders, as the *snuffles*, which is a copious discharge of moisture from the mouth. *Potbellied*, or *blown*, is a dropsical affection, or simply a distention with air, like *hoven* in cattle. The *rot*, or liver complaint, is another disease to which the Rabbit is liable. All these diseases may be cured, if taken in time, by dry, airy lodging, less moist food for a while, and the addition to their food of a little salt. The Rabbit, if allowed good air, exercise, and wholesome food, combined with proper shelter in wet or cold weather, is a prolific and healthy animal.

The third mode of rearing Rabbits is that practised by those fanciers who breed exclusively for show, or sale; with them, the ears and early maturity are the great points. The ears are brought to their excellence by various means, such

as the young animals being obliged to wear caps to make their ears fall the right way; or they are pulled, stropped, stretched, and rubbed for so many hours daily. To obtain early maturity, the does are not allowed to rear but three or four at a time, and frequently common does are kept as nurses. These are put to the buck at the same time as the fancy does, by which means they are ready to rear the superabundant young of the fancy does, their own young being put out of the way altogether. The young Rabbits, when forced for the shows, are sometimes kept in hutches lined with carpet, or flannel. The room is artificially warmed, and they are supplied with the most nourishing food the owner can procure. This, however, I think, is the extreme of the Rabbit fancy, and this artificial mode of treatment makes them tender and more liable to disease in after-life, if not to premature old age.

Good fancy Rabbits kept on a less extreme, or more natural treatment, where fancy in the stock and usefulness in the young are combined, is, I consider, the most rational mode; and to combine nature, beauty, and usefulness, is to obtain the height of Rabbit fancy.—B. P. BRENT.

BREEDING PILE GAME FOWLS.

"W. C." is desirous to know how to breed Pile Game fowls successfully; and having, from time to time, gleaned useful information from your valuable paper myself, it is but my duty to return the favour, if what I write is considered worthy of insertion.

Now, the way I used to breed them, twenty years ago (and I do not think it has been superseded yet), was as follows:—I chose a White hen, and if she has a black feather somewhere about her all the better; but I would not desire above one, and she should be two or three years old. I put her with a Black-red cock in his first year, and, if I could get him, he should have a white feather in his tail. However, the white feather may be dispensed with; for I take that as a proof he is of that colour; and in the event of his not having the white feather he should, what I call, cut a white neck; that is, the bottom of his hackles should be white, and the fluff on the rump be of the same colour; but if you know he is bred from Piles it does not matter so much. Putting these two together, their legs and bills being of one colour, you cannot fail of having first-rate Piles and Black-reds, as they will scarcely throw any other than these two colours.—ROBERT GREGORY, *Bridge-street, Belper*.

Another correspondent bears similar testimony, only the colour of the parents were reversed by him.

"W. C." wishes to know how the Pile Game fowl was "originally produced." This I am not prepared to answer; but as he wishes to hear the results of different crosses, I beg to inform him that I have some Piles which were bred from a White Game cock and Black-breasted Red Game hen. These were commended at Keighley and Bedford in 1855. I think that mostly, when thus bred, the cocks (oftener than the pullets) come sooty-coloured, and rather inclined to a blue tinge in their feathers, which is very objectionable; at least thus I have found it.—THOMAS H. D. BAXLEY, *Ickwell House, near Biggleswade, Bedfordshire*.

PIGEONS.

THE RING DOVE.—COLUMBA PALUMBUS TORQUATUS.

French, *Le Ramier*. German, *Die Ringeltaube*.

This is the largest of our native Doves, or wild Pigeons, and is also known by the names of Cushat, Wood Pigeon, Ring Pigeon, and Great Wood Pigeon. It is to be found in most wooded districts, inhabiting the temperate and warmer parts of Europe, and Bechstein says also of Asia. In this country Wood Pigeons are too well known to require a very minute description. Their general plumage is of a dark ashy-grey; on each side of the neck is a half-moon-shaped white spot that nearly encircles the neck, from which circumstance they derive the name of Ring Dove; across the middle of the wing there is also a white mark, formed by the

covert feathers of that part, which are white; so that when the wing is closed the lower edge appears white; the breast has a violet brown tinge, the neck is glossed on the sides, but not so much as is usual with the house Pigeons; the flight feathers are a dull black, having a narrow white edge; the tail is dark slate-coloured, having a black bar at the extremity, with a light, ashen-grey band across the centre, on the under side of the feathers; the belly is dull white; the beak is a little more than an inch long, of the same form, but rather stouter than a common Pigeon's, of a delicate flesh colour, and about the nostrils of a red colour, the coverings of which are white; the irides of the eyes are an opaque white or pearl colour; the feet, or shanks, are short, of a dull red, the feathers covering about half their length; the toes rather long and well adapted for perching; the nails dark horn-coloured; from the tip of the beak to the end of the tail they measure about seventeen inches, and from tip to tip of the expanded wings twenty-nine inches.

This variety of the Columba are arboreal in their habits, perching and building their nests on trees; they usually live solitarily in pairs during the breeding season, but in winter congregate in large flocks. The nest is formed of twigs like a platform, slightly depressed in the centre, and they lay two white eggs. They usually have two broods in a season—one in spring and the other about harvest. It is reported that the spring-hatched young ones often breed the same year. They feed on all kinds of grain and seeds, and eat also Acorns, Beachmast, Ivy and other berries, &c. They are thought to be destructive to the corn crops, but I believe the damage they do is greatly exaggerated. It is true, that at seed time they will sometimes fill their crops with such grains that have not been properly covered, but as they cannot dig nor scratch, they cannot exhume that which is properly sown. At harvest time they will also pick up the scattered Peas that are cast abroad by the splitting of the pods, which will always happen with some pods, before the main crop is ripe; and they may, occasionally, pick a few grains from a stack of wheat; but, after all, this little harm is well paid for in the destruction of an immense number of weeds, the seeds of which they eat. As an example of this I extract the following:—

"An agricultural friend called Mr. St. John's attention, on the 6th of March, to an immense flock of Wood Pigeons busily at work on a field of young Clover, which had been under barley the last season. 'On this,' says he, 'in furtherance of my favourite axiom, that every wild animal is of some service to us, I determined to shoot some of the Wood Pigeons to see what they actually were feeding on; for I did not at all fall into my friend's idea that they were grazing on his clover. Eight were accordingly shot as they flew over his head. On being opened, every Pigeon's crop was as full as it could possibly be of the seeds of two of the worst weeds in the country, the Wild Mustard and the Rag-weed, which they had found remaining on the surface of the ground, these plants ripening and dropping their seeds before the corn is cut. Now, no amount of human labour and search could have collected, on the same ground, at that time of the year, as much of these seeds as was consumed by each of these five or six hundred Wood Pigeons daily for two or three weeks together.'—*Wild Sports of the Highlands*.

The Ring Dove is a favourite with the poets, who often refer to its note, a deep sounding coo-oo-hoo, and the cock also performs some droll gestures, jumping about in various attitudes when playing to his mate. Their flesh is also esteemed for eating, provided they are killed before they eat the Ivy berries in winter, which make it bitter.

Many attempts have been made to domesticate them, or to cross them with tame pigeons, but I have never heard of any one succeeding, as from their roving propensity it is impossible to accustom them to return to a pigeon-house. I once had a hen Ring Dove paired with a cock Dragon Pigeon, but though they built, laid, and sat, I never had any produce, as the Ring Dove's peculiar jumps and gestures always frustrated the Cock's wishes at coupling time.

If brought up from the nest young, they may be tamed, and, I believe, will breed in confinement. Bechstein remarks, he saw a white Ring Dove in the autumn of 1792.—B. P. BRENT.

CAUSE OF HENS NOT LAYING.

It may be safely said that good advice cannot be given too often, and more especially when it refers to some certain season, and is applicable at that time. Although it may be repeated year after year, yet it is more likely to be useful if met with just when wanted; it may save the lives of many valuable chickens, and it may save the owners from the "blues," or it may afford comfort to the discouraged to take a review, from time to time, of things as they are in the poultry world.

There has been a general complaint this year that hens have not laid as freely as usual. Poultry-keeping, in our opinion, humanizes and improves our nature, and we will not, therefore, ask our readers to derive comfort from the fact that their disappointment is only neighbour's fare. We would rather tell them to see the cause of temporary annoyance in the variable weather we have had. In many instances it may also be traced to the fact, that the birds that produced good stock last year are intended by their owners to eclipse themselves now; and it must not be forgotten that the older the hens are the later they are before they lay. Pullets lay at a certain age; hens at a certain season, and that is after February.

Who has not, within the last few days, felt the necessity and luxury of a great coat? Who has not complained that the easterly winds "nipped" him? Coughs, colds, and sore throats, have been "plentiful as blackberries." Every one looks for a change of wind, for the balmy weather, and genial showers of April. We advise, then, our readers to bear with the temporary sterility of their fowls, and we promise them that when a beneficial change shall have mollified them so that they would forgive anything or any one, eggs will be so plentiful, that their good nature shall not be tried.

SUDDEN DEATH OF LAYING HENS.

I HAVE had already several hens forwarded to me that have been found dead upon the nest. In all cases they have been extremely fat, and apoplexy has ensued in consequence of the straining to expel an imperfect egg. This state of things has been so frequently alluded to by me in these pages that a lengthened article is not required. I merely insert this short notice as a caution; for it cannot be too often repeated, that over-fed laying hens are always liable to sudden death, a circumstance more annoying to the amateur, as it is usually his very choicest stock that are fed with so lavish a hand.—W. B. TEGETMEIER.

OUR LETTER BOX.

SPANISH FOWLS (*Bristoliensis*).—There is no distinct breed of *Brown Spanish fowls*. There are only Black and White, and the latter are offshoots from the former. The only distinguishing mark in the plumage of the cock is that he has hackle, saddle, and sickle feathers. He should have a straight and upright comb; but he *must* have a white face, and his cheek should hang down very low.

GAPES (*An Ignorant Poultry Fancier*).—Put the chickens into a box, and make them breathe the vapour of spirit of turpentine.

REMOVAL OF SPURS FROM HENS, AND CURE OF GAPES (*J. K. B.*).—It appears in the highest degree improbable that spurs can be sloughed away by a poultice; they may be removed by a very *fine* saw, and the bleeding stopped by a little powdered alum, or, if necessary, by a momentary touch of a hot iron. There is no remedy so effectual as turpentine for parasitic animals. Is the writer sure that the disease is caused by them, and is really gapes? It is confined to very young chickens? at least, we have never seen the parasites in old birds.—W. B. T.

CROOKED TOE DOES NOT DISQUALIFY.—"A Lady would be glad to know whether a large Dorking hen, weighing 8½ lbs., would be disqualified from taking a prize at a Poultry Show by having one of her hind toes doubled up? She is perfect in other respects."

[The accident in question would not disqualify the hen. Those things only which indicate impurity, trickery, or weakness, tell against a bird. If the competition were *very close*, it might prevent her from taking a first prize; but matched with others of equal weight, she would be hard to defeat.]

THE BIRMINGHAM DELINQUENT.—"The best thing you could do would be to give the name of the party who has been behaving so dishonestly as referred to by your correspondent, 'W. X. W.,' in your paper of the 27th ult., as it might be the means of preventing any one else being duped by such unprincipled scoundrels.—EDW. H. LINGARD, Birmingham.

"P.S.—I sent to the last Exhibition at Shrewsbury, and took several

prizes for Pigeons; but up to this day (March 28) have not received a farthing. Can you tell me if any of your subscribers who sent have received theirs? or are they treated the same as myself?"

[When the party at Birmingham acts sufficiently dishonestly to enable us to plead justification in case of an action for libel, we will publish his name.

Perhaps some of the Committee, or the Secretary of the Shrewsbury Show, will be so obliging as to explain the delay complained of by Mr. Lingard. One of the best aids to obtaining numerous exhibitors is to pay the prizes promptly.]

NURSES FOR YOUNG PHEASANTS AND PARTRIDGES.—"I shall be obliged by any information as to the best sort of hens to hatch and rear Pheasants or Partridges; and also, as to their feeding and management when hatched.—I. P."

[A half-bred Game hen is the best to set on Pheasants' eggs; but any hen will do. A Cochins is the worst, as she lays too soon, and is not an attentive mother. Bantams, or very small Game hens, are the best for Partridges. We shall be happy to give the other information you require in an early number.]

CAREFUL BREEDING.—MOST PROFITABLE DUCKS.—"Will you be kind enough to explain to me what is meant by 'careful breeding,' besides breeding from good stock? and whether there is a book on the subject? Also, which kinds of Ducks are the most prolific layers? And what book can you recommend which treats upon the breeding and management of all kinds of poultry, &c.; the price, and where published?—B. T. T."

[The first condition of careful breeding is to choose stock not related, and possessing in an eminent degree the qualities you wish to perpetuate. Care must be taken that there be no deformity in any of the parents, and that they be of proper ages: a three-year-old cock with pullets, or a yearling cock with hens. *Aylesbury Ducks* are the best layers, but they are bad sitters. Baily's book treats of "Dorkings;" Tegetmeier's of "Profitable Poultry;" "The Poultry Book" of all kinds. This last costs about 20s.; the others about 1s. 6d. each.]

LONDON MARKETS.—APRIL 7TH.

COVENT GARDEN.

Supply somewhat improved, but trade remains inactive. *Asparagus*, *Sea-kale*, and *Cucumbers* are now unusually good, and with a continuance of the present weather prices must recede a little. *Cornish Brocoli* still comes good, but not in such large quantities as hitherto. Continental importations are much as usual, remaining at former prices. *Potatoes* have slightly advanced, although large quantities of good, sound stuff can be had both coastwise and by rail.

FRUIT.

Apples, kitchen, per bushel.....	3s. to 6s.	Parsnips, per doz.....	6d. ,, 9d.
"dessert	6s. ,, 10s.	Beet, per doz.....	1s. to 1s. 6d.
Pears, per dozen	1s. ,, 3s.	Potatoes, per cwt.	3s. ,, 6s.
Pine-apples, per lb.	8s. ,, 12s.	Onions, young, ditto. ..	1d. ,, 2d.
Foreign Grapes, per lb. 2s. ,, 3s.		Turnips, per bunch ..	3d.
Hothouse ditto, ditto 15s. ,, 30s.		Leeks, per bunch	2d. ,, 3d.
Strawberries, per oz.	2s. ,, 3s.	Garlic, per lb.	6d. ,, 8d.
Foreign Melons, each 2s. ,, 4s.		Horsradish, per bundle	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. ,, 10s.	Shallots, per lb.	6d. ,, 1s.
Seville Oranges, do.	6s. ,, 12s.	Lettuce, Cos, each	6d. to 8d.
Lemons	6s. ,, 12s.	" Cabbage per doz. 2d. ,, 3d.	
Almonds, per lb.	2s. ,, —	Endive, per score ..	1s. 6d. ,, 2s.
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Celery, per bunch.	9d. ,, 1s. 6d.
" Cobs, ditto ..	60s. ,, 70s.	Radishes, Turnip, per dozen bunches	6d.
" Barcelona, per bushel.....	20s. ,, 22s.	Water Cresses, ditto ..	6d. ,, 9d.
Nuts, Brazil, ditto.	12s. ,, 14s.	Small Salad, per punnet.....	2d. ,, 3d.
Walnuts, per 1000 ..	9s. ,, 12s.	Artichokes, per lb.	2s.
Chestnuts, per bushel 15s. ,, 24s.		Asparagus, per bundle 5s. ,, 8s.	

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.	Mushrooms, per pot 1s. 6d. ,, 2s.	
" Red, per doz. 2s. ,, 4s.		HERBS.	
Cauliflowers, per doz.	4s. ,, 6s.	Basil, per bunch	4d. to 6d.
Brocoli per bble	1s. ,, 2s.	Marjoram, per bunch 4d. ,, 6d.	
Savoy, per doz.	1s. ,, 2s.	Fennel, per bunch ..	2d. ,, 3d.
Greens, per doz. bunch 4s. ,, 6s.		Savory, per bunch ..	2d. ,, 3d.
Spinach, per sieve.	— ,, 4s.	Thyme, per bunch ..	2d. ,, 3d.
French Beans, per hundred	3s. ,, 4s.	Parsley, per bunch ..	2d. ,, 3d.
Carrots, per bunch ..	4d. ,, 6d.	Mint, per bunch	2d. ,, 4d.
		Green Mint	6d. ,, 8d.

POULTRY.

The market has been but scantily supplied during the past week, and most of the poultry has been of very inferior quality. Some American Game has arrived in excellent condition. We refrain from quoting Plover's eggs, as they come only in small numbers.

Large Fowls ..	6s. 6d. to 7s. each.	Teal	0s. 0d. to 0s. 0d. each.
Smaller do. 5s. 0d. to 5s. 6d. ,,		Leverets ..	4s. 0d. to 5s. 0d. ,,
Chickens	5s. 0d. to 0s. ,,	Guinea Fowl 3s. 6d. to 4s. 0d. ,,	
Goslings	8s. 6d. to 9s. ,,	Pigeons	10d. to 0d. ,,
Ducklings	4s. 6d. to 5s. ,,	Rabbit	1s. 6d. to 0s. 0d. ,,
Wild Ducks 0s. 0d. to 0s. 0d. ,,		Wild Ditto ..	10d. to 1s. 0d. ,,

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WEEKLY CALENDAR.

D M	D W	APRIL 15—21, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
15	Tu	<i>Myiæchus brunneus.</i>	30.305—30.092	65—92	W.	—	6 a 5	54 a 6	3 58	10	0 a ft. 3	106
16	W	<i>Cateretes rufilabris.</i>	30.367—30.229	71—41	W.	—	3	56	4 9	11	0 18	107
17	Th	<i>Cateretes bipustulatus.</i>	30.343—30.323	65—30	E.	—	1	58	4 20	12	0 32	108
18	F	<i>Staphylinus murinus.</i>	30.342—30.224	66—23	E.	—	IV	VII	4 30	13	0 46	109
19	S	<i>Staphylinus hybridus.</i>	30.129—30.005	67—36	N.E.	—	57	1	4 40	14	0 59	110
20	SUN	4 SUNDAY AFTER EASTER.	30.339—30.162	67—27	N.	—	55	3	rises.	☺	1 12	111
21	M	Sun's declinat., 12° 1' N.	30.433—30.474	54—28	E.	—	53	4	8 a 49	16	1 25	112

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 57.8°, and 37.3°, respectively. The greatest heat, 77°, occurred on the 19th, in 1854; and the lowest cold, 20°, on the 16th, in 1847. During the period 106 days were fine, and on 90 rain fell.

CYSTOPTERIS ANGUSTATA.



This has various English names, and among botanists, with still more varied want of certainty, has been placed in various genera, or been reduced even to a mere variety.

It is known as the *Deep-cut Mountain Bladder Fern*, as the *Stone Polypody*, as the *Red-stemmed Polypody*, and in botanical works it is *Polypodium rheticum*, *Polypodium ilvense*, *Aspidium fragile*, *Aspidium rheticum*, *Cyathea fragilis*, var. β . and *Cystopteris fragilis*, var. *angustata*.

We think that it has sufficiently distinctive characteristics to retain it as a species. *Root* tufted, somewhat creeping, black, with rusty scales, and rootlets long. *Fronde* from six to fifteen inches high, rather numerous, erect; stalk dark-red becoming black, nearly half its length naked, without any border, slender, and smooth. *Leaflets* bright green, nearly opposite, the lowermost rather shorter, and the pairs at greater distances from

each other than those about the middle of the frond, all leaflets with scarcely a border down the side of the midrib. *Leaflets* alternate, spear-head shaped, rather bluntly pointed, sometimes, however, tapering at the end, all deeply cut, with oblong wavy, pointed segments; and the ribs of all somewhat wavy. The segments are always long and narrow, never broad, rounded, or egg-shaped, but sometimes, though rarely, cloven at the end. The leaflets on the upper side of each leaflet are larger than those on the lower side; the cuts are all along the sides of the leaflets. These characteristics distinctly distinguish this Fern from *Cystopteris fragilis*, and *C. dentata*. The *fructification* is round, and smaller, and less prominent than in those two species; always continuing distinct, standing either in solitary masses or in pairs, towards the bottom of each cut dividing two lobes from each other; at first pale, but finally becoming brown. The cover (*indusium*) white, very thin, coneave, irregularly torn, soon pushed off, or aside, by the comparatively large, though not numerous, shining brown capsules.

It is found, but not commonly, in wooded places on mountains and on shaded rocks; as near Llanberis, in North Wales; at Gordale, in Craven, Yorkshire; on shaded rocks in many parts of Scotland; on the mountains of Westmorland; on the top of Glyder Mountains, on the side overhanging Llyn Ogwen Lake, and near Ffynnon felon, and on the Leek Road, about a mile from Buxton.

This Fern was first discovered in Rhætia, whence its earliest name of *Rheticum*, but it is first mentioned as a British Fern by Gerard, if his *Filicula petraea mas* is really his name for the present species. There is, however, much uncertainty about the early history of this Fern, and this uncertainty has been thus well-pointed out by the late Sir J. E. Smith.

"Great confusion has always existed amongst our British botanists concerning *Polypodium* (*Cystopteris*) *rheticum*. Hooker has it not. Lightfoot appears, by what he says in his *Fl. Scot.* 678, to have been acquainted, like Mr. Dickson, with our *Cystea* (*Cystopteris*) *angustata* under that name; and he quotes Gerard rightly, justly objecting to Plukenet's *t.* 179. *f.* 5. Lightfoot's description is excellent, though he submits, as I have formerly done, to Haller, Weis, and others, who consider it as a variety of our *C. fragilis*. The late Mr. Davall took it for Haller's *n.* 1705; but that plant, with many errors in the synonyms, is certainly *Aspidium dilatatum*. Our *Cystea* (*Cystopteris*) *angustata* may be *n.* 1708 of Haller, but his references are confused. Mr. Hudson, on seeing Mr. Davall's specimens of the Fern in question, declared it very different from his own *Polypodium rheticum*, which indeed is *Aspidium dumetorum*. I have little scruple in referring

the obscure and long-disputed figure of Clusius, reprinted in Gerarde, as above quoted, to this *Cystea* (*Cystopteris*) *angustata*, though the draughtsman has omitted the ultimate divisions of the leaflets, well enough expressed by Hoffmann and Villars. I have never received this Fern from Wales, but if it be not Ray's *Polypodium ilvense*, it is wanting in the *Synopsis*. The wooden cut of Dalechamp, copied in J. Bauhin, and quoted doubtfully by Ray, should rather seem to be the totally different *Acrostichum Marantæ*, as Bauhin himself suspected."

The cultivation required by this Fern is the same as for *Cystopteris alpina* stated at page 421, of our last volume. It requires, however, more shade, and does well under the shadow of other plants in a cool greenhouse.

A MEETING of the BRITISH POMOLOGICAL SOCIETY was held at the Rooms, 20, Bedford Street, Covent Garden, on the 7th inst., Mr. Hogg in the chair.

There was a large collection of Apples and Pears from Mr. McEwen, of Arundel Castle, exhibiting the success of Mr. McEwen's plan of keeping fruit, all of which were in the highest state of preservation. They consisted of Pears—*Easter Beurré*, *Beurré de Rancee*, *Knight's Monarch*, *Ne Plus Meuris*, *Vicar of Winkfield*, *Knight's Winter Crasanne*, and *Spring Beurré*. The Apples were—*Herefordshire Pearmain*, *Winter Greening*, or *French Crab*, *Yorkshire Greening*, *American Pippin*, (a variety which we are not acquainted with,) *Cockle Pippin*, (very fine,) *Golden Harvey*, *Ribston Pippin Margil*, *Lancashire Reinette*, (an unknown variety,) *Court-pendu plat*, *Hamilton Pippin*, *Royal Russet*, *Dumelow's Seedling*, *Alfreton*, *Gloria Mundi*, *Baxter's Pearmain*, *Broad-eyed Pippin*, *Sturmer Pippin*, *Blenheim Pippin*, *Norfolk Beefing*, and *Northern Greening*.

But the most attractive part of the collection were three bunches of *Bluek Hambro' Grapes*; the berries were large, deeply coloured, and of excellent flavour. We never recollect seeing better, and they were quite equal to what we are used to see in June. There were also specimens of *British Queen*, *Keens' Seedling*, and *Trollope's Victoria Strawberries*. These were remarkably fine as regards size, colour, and flavour; each berry weighed half-an-ounce. There is no doubt but that the *British Queen*, whether forced or from the open ground, takes the lead in flavour, as it did in the present instance. *Trollope's Victoria*, though a remarkably fine-looking fruit, and a great ornament in the dessert at this season, is inferior in flavour to both of the others. It is more acid, and has but little aroma. Much credit is due to Mr. McEwen for these examples of high gardening.

The following gentlemen were elected members:—

MANSFIELD PARKYNS, Esq., Woodborough Hall, Southwell, Notts.

Rev. F. W. ADEY, The Cell, Markgate Street, Herts.

BEDDING GERANIUMS.

THE best kinds of bedding Geraniums which have refused hitherto to yield to the art of the cross-breeder are, *Sidonia*, *Lady Mary Fox*, *Moore's Victory*, *Querci-*

folium, *Q. coccinea*, and *Q. superbum*, *Rouge et Noir*, *Spleenii*, and the different varieties of *Diadematum*. Notwithstanding a cross or two which look as if they were from *Unique*, we may justly add *Unique* to the number of this group.

Sidonia, *Lady Mary Fox*, and *Unique*, are the best of them; then follows the *Diadematum*s, to which *Spleenii* belongs; and the third best section is that of the *Quercifolium*s, to which *Moore's Victory* may be joined, but which stands, in reality, between the *Uniques* and *Quercifolium*s.

Almost all the varieties into which this group is divided ought to be propagated only in the spring, as from their habit of retaining the present impression of the mother plant, so to speak, whatever that peculiarity may be, cuttings should only be taken off them when the plants are in the best growing state, which is generally about this time, or a little earlier.

If we look on them as hybrid perpetuals, that character must have been stamped on them by severe, or extreme crossing. Some wild kinds, which flower naturally in the spring, have been crossed with others which produce their flowers only in the autumn, or early in the winter; and, as happens in the animal kingdom, crosses so remote generally produce a barren offspring; at all events, such crosses as we know to have been thus extreme among Geraniums have become barren not later than the third generation. But there is some hidden cause which renders a wild prolific Geranium all but barren after so many years; but how many years I cannot say—the fact itself is all that I can prove.

From 1815, or from Waterloo to the crowning of Louis Phillipe, the finest, or, at least, the richest, of all the wild Geraniums, *Fulgidum*, would seed and cross, cross and seed, by the merest touch of the pollen; but who can seed it or cross it now, is more than I can tell. Several of the most expert among us can barely make bread and cheese out of it now, while, formerly, any one might keep his carriage by it. There must be a cause for this, and to find out that cause will open the way for the secret of extreme crosses turning barren. I attribute the *Fulgidum*, among several kinds of wild Geraniums, to be owing to a long course of neglect, and bad cultivation, and nothing else. Their native energies have been thus so completely exhausted that they cannot, at present, fulfil the mandate to "increase and multiply" by seed and seedlings. If that be so, if the strength necessary to produce seeds can be overcome by a long course of insufficient nourishment, can it be possible to restore such plants to a fertile condition once more by an opposite course of high nourishment and kindly treatment during another long period of good cultivation? I think that could be effected in time. I am also of opinion, that if you take cuttings of *Lady Mary Fox*, or of *Sidonia*, the two most barren kinds we know of, in the spring, and do not allow the plants to flower at all the first season, nor the next, nor the third season, but cut them back to thoroughly ripe parts of the shoots every autumn, and make cuttings from the *thinnings* in the spring, not from the *tops* of the shoots,—I say, that I believe you could, in time, overcome their present condition by such a course, under a liberal cultivation. Hence my desire to possess all these kinds, once more to try the experiments; but, at the same time, I hope no one will defer an intended experiment under the idea of being forestalled by these explanations.

Sidonia and *Rouge et Noir* are the two which I consider the most difficult of this group to manage in a flower-garden, and for opposite reasons. *Sidonia*, a French seedling, from a delicate parent, requires a warm, sheltered situation and a light, rich soil, to make a good bed of it; and for a summer plant to flower out in front of a greenhouse, or drawing-room, in single patches,

this is the best of our hybrid perpetual Geraniums. Indeed, no one with a greenhouse ought to miss this beautiful flower and constant bloomer. *Rouge et Noir*, on the other hand, is too strong, and requires to be pegged down in poor, shallow soil to get it worth one's pains; yet, being of a better habit than either *Lady Mary Fox*, or *Touchstone*, I would keep it in my list of expectant breeders, if not in a bed by itself. *Spleenii* is so tall that old plants of it need not be kept; as many as you want should be struck off in the autumn, not in the spring, and let the frost take the old plants.

In a bed of the different kinds of *Diadematium*, I would make the middle with *Spleenii*, with *Diadematium rubescens* round it; then *Diadematium regium*, and on the outside the old *Diadematium* itself. If the sizes of the plants were well balanced this would make a very rich flower-bed. Or the half-double one, called *Wilmore's Surprise*, which is a sport from *Rubescens*, might alternate with its parent in the back row next to *Spleenii*; but if you make a circle, or row, of *Regium*, it must not be mixed with any other kind. If all the kinds of *Quercifolium* are put in one bed, the original, which was raised by Mr. Bell, of Norwich, ought to be in the middle, *Superbum* next, and *Coccineum* round the outside; but a better centre would be, "plant for plant," of *Quercifolium* and *Moore's Victory*. There never were two bedders more of one habit, and the *Victory* would add brilliancy to the more profuse bloomer. *Lady Mary Fox* will not mix well with any other Geranium except *Oliver Twist*, which is too rambling for a bed, but worth a place among breeders "which are to be"

FANCY GERANIUMS.

Out of all the new Fancy Geraniums, we have not a single kind which will make a good bed, save one of my own seedlings, which I called *Sir William Middleton*, and that one is not yet in the trade. But just see what one of the very best gardeners in England has told me, this week, about it,—“Your Fancy Geranium, *Sir W. Middleton*, is a nice one for a dark, rich, velvety bed. It is very fine for our boxes on the sills of the windows of the mansion, and in the corridors; its noble-looking flowers (the petals are large and stout in substance), and their richness of colour, making them very attractive.” This was in answer to a request that he should tell me the exact value and use of this kind, as I had only the experience of two seasons to guide me as to its merits, and one season the plants were so forced, to get a sufficient number of cuttings of it for a small bed, that it was late in the season before I could get them out. This was in 1850, and in 1851 I was too busy preparing to leave Shrubland Park to do full justice to my new pet seedling. Now, however, I am satisfied that *Sir William Middleton* will be as celebrated, some day, as the *Golden Chain*. The trade must have it, and do with it as they have done with the *Golden Chain*.

This was the first letter which I received on the subject since I gave out the notice about my experimental garden, and I quote the following to show all, who are inclined, how they may best further my project:—“You shall have any kind of bedding Geranium I have, and welcome. I may send you some of all I possess, I suppose, even at the risk of your getting among them some you have already.”—That is it exactly; some of all the kinds, and as many as you please of all the best kinds. “What a capital idea,” he goes on to say, “to have a trial ground of all the bedding Geraniums. It will lead to many being discarded which we grow, from year to year, because we do not know any better of their colour; and the really good ones will be brought under notice. Capital!”

COUNTRESS.—This Geranium is in the trade-lists of London; but the plant is not much grown yet; but I want it now most particularly. It is the fruit of six

years' crossing in the pure white strain, and is the kind I wrote about in 1849 or 1850, as a pure white, or nearly white, bedder, with leaves no bigger than a shilling. In a hot summer it comes French-white; but they bed it at Shrubland Park as a distinct kind, and I want it to follow out that peculiar strain, satisfied, as I am, that the size of the leaves, and the style of growth, are the stumbling blocks to some of the otherwise best bedding kinds. Has any one tried the new French seedling called *James Odier*? It has a true and lovely bedding flower; but I fear it is not a perpetual flowerer. I mention it, however, as a most likely kind for pollen to cross for bedders, as I desire no monopoly for my experiments; the more who try the better.

VARIEGATED GERANIUMS.—The oldest of them is the *Golden Chain*, and the old variegated Scarlet, which is the true *Zonale coccineum* of our books, of which there is a sport with crimson flowers, which I possess. There is also a lilacy variegated kind very like it, but the leaves and wood are more soft; and it belongs to another old species, called *Fothergillii*. The *Golden Chain* is a sport from *Inquinans*, or old Cape Scarlet, which I proved myself, and any one may prove over again in the second or third generation of seeds from it. If kept true to its own pollen, nine-tenths of the seedlings cannot be distinguished from the “Cape Scarlet,” or *Inquinans*, which shows the uncertainty of crossing the *Golden Chain* for improvements, as *Inquinans* must have been the first parent of all our plain-leaved Scarlet Geraniums; but the pollen of the *Golden Chain* often throws a dash of variegation into the leaves of seedlings, and if such could be caught at the right moment, there would be no lack of variegated Geraniums. The difficulty is to know the exact time to cut the sport. There are two great sports already from the *Golden Chain*, to my own knowledge, perhaps more, that I never heard of. “One is very brilliant in the colour of the leaf, and has a freer growth than the original,” but which is which, my experimental garden must decide.

DANDY.—This is of the Gooseberry-leaved section, and is one of the dwarfiest of the race; it is barren, and likely to remain so, for of all the old Geraniums, *Dandy* has been most petted, so that had treatment has had no hand in keeping it in the back ground. There is no way of planting the *Golden Chain* that it will not be improved and “brought out” better by Master Dandy. There never were two Geraniums which so much reflect on one another, if you will allow the expression. In a row, two *Golden Chains* and one *Dandy* make a better show than either of them separate. The same proportion tells well in a small bed; but the best edging of Geraniums in the world is, first, one whole row, or circle, of young *Golden Chains*, and four inches behind it another row of old plants of *Dandy*, then six inches behind that another row, or circle, of young plants of *Baron Hugel*; the whole band should occupy about eleven inches or a foot. I once saw some hundreds, or, rather, thousands, of the *Golden Chain* and *Baron Hugel* used in edgings; the *Baron* in the first row next the grass; and to this day I cannot account for the extraordinary bad effect they made on the eye. It was in experimenting to account, if possible, for this effect, that I discovered the value of *Dandy* on the *Golden Chain*, and between it and *Baron Hugel*. Let this edging be tried over again this season, and if any one with “an eye” finds fault with them, and can give a reason for that fault, we, or most of us, will learn something new at last.

After the *Golden Chain*, and the scarlet, crimson, and lilac variegated, we had no more in this class, save the variegated Ivy-leaf, from the middle of the last century till that beautiful sport called *Mangle's Variegated* appeared, little more than twenty years since, in the garden of Captain Mangles, at Sunning Hill.

I may mention, as a curious fact, and a very curious fact it is, that I never met with this *Geranium* in prime order in the garden of an amateur; I mean, where no gardener was kept. When well done, in a large garden, it is the best of all our variegated *Geraniums* yet. To bring it out in all its features the bed should be large, and the nearest bed to it to be of the gayest colours. As an edging plant, it is not nearly so effective as *Flower of the Day*; the white of the latter is so clearly brought out by the green and scarlet of *Tom Thumb* that no other *Geranium* can surpass it. The strength of *Mangle's Variegated* lies in its white being grey at a short distance, therefore the best neutral plant we have for the centre of a flower-garden, where the *Flower of the Day* might be too conspicuous. How would a centre of *Flower of the Day* look with a broad band of *Mangle's Variegated* round it as a centre figure?

D. BEATON.

JERUSALEM.—The Greeks are cultivating land to a great extent in and about Jerusalem, planting olive and mulberry trees, and building silk-mills. They have lately made a very good road to the Convent of the Cross, which has been almost rebuilt, and where they have a College.

Almost all travellers now succeed in visiting the Great Mosque of Omar, the site of the Temple, though they have to make large presents for the privilege. The Jews, however, are still unwilling to enter the Temple, from fear of defiling it, because they believe that the Ark of the Covenant, containing the two Tables of Stone, was buried on that spot by Jeremiah, when Judah was carried away captive to Babylon. The excavations under the city of Jerusalem are also frequently explored; but the entrance, being exceedingly narrow and low, is very difficult. These excavations are of very great extent, and are formed into vast arched chambers, which seem to have been used as a quarry to supply the materials for the walls of the Temple.—*Times*, April 3rd.

COMPARING NOTES.—PROPAGATING AND KEEPING OF BEDDING-PLANTS.

"Your able coadjutor, Mr. Fish, in a contribution to THE COTTAGE GARDENER, March 18th, expresses himself as of opinion, that "the practice of striking the greater portion of bedding-stuff in the autumn, in cold frames, and protected there through the winter with mats, &c., as practiced by Mr. Caie and Mr. Scobie, is one whereby no trouble or labour is lost." Now, with all deference to the better judgment of Messrs. Fish, Caie, and Scobie, I beg to say, I cannot well see the economy of labour in this over the practice of keeping, in greenhouses, or pits, through the winter, a few stock plants from which to take cuttings in spring. Of course, I am understood to speak of soft-wooded plants, such as *Verbenas* and *Alyssum*. No one would think of leaving until spring the propagation of a full stock of *Calceolarius*, if he had room anywhere to keep them from autumn until planting-out time, and a cold frame is just the right place for most of this invaluable class of bedding-plants.

"Experience has taught me, situate in a less genial locality (Ayrshire) than either Mr. Caie or Mr. Scobie, that the cold frame practice is attended with many inconveniences, not to speak of the anxiety one is very naturally thought to feel for the comfort of their precious little charges, on coming out of a morning after a severe frosty night, some such as we occasionally have in our more northern latitude. I may say, I require a good many bedding-plants, and, perhaps, succeed in having as many by bedding-out time as most people do with like means at command. And, now, I never burden myself through the winter with more than is absolutely necessary to produce a sufficiency of cuttings in the spring to form a full stock against bedding-out time.

Of course, I act upon the Beatonian, or compound, style in propagating, and as *Verbenas* are such easily-rooted things, I am not content with fifteen to the dozen. Any careful person putting in, the beginning of February, a pot with thirteen cuttings, might reasonably expect to treble them before May. And who will say it is not much easier to keep sixty *Verbenas*—each in a three-inch pot—in a greenhouse, or pit, through the winter, to keeping six or seven hundred in any number of pots in a cold frame? And that that is too much to expect from the given quantity of stock-plants? Sure Mr. Fish or Mr. Beaton will not?

"In conclusion, I hope Mr. Fish will not think me impertinent in expressing my doubts of the cold frame practice economising labour. Indeed, it was some time before I could bring myself to put them on paper, in consequence of a diffidence, natural to me, to meddle with those catering for the public benefit and amusement through the pages of your very valuable journal, and that you yourself will forgive the trespassing on your precious time by your humble servant—CORVUS."

The gist of this letter of our intelligent correspondent from Ayrshire, consists in the idea that it is more economical, and involves less trouble, to keep merely as many plants over winter as are wanted for furnishing cuttings in spring, and to depend upon these spring-raised plants for a supply, than to keep a large stock over the winter, and thus so far obviate the necessity of so much spring propagating.

As there is no rule without exceptions, so the propriety of this course will depend greatly upon the circumstances of the case, and the means and room at the command of the operator. Although we have many first-rate gardeners among our readers and advisers, we must not forget the title of our work, nor the recollection that many readers can command a frame or cold pit that do not possess a heated structure, nor the skill to make and manage hotbeds for spring cuttings, nor even the time to attend to their minutiae.

In Scotland, I have been given to understand that, where the bedding system is much in operation, the end of July, August, and September, are the months for the chief display; but in the neighbourhood of London it is desirable to have a fine display by the middle of June and onwards. Upon the well-known principle, that plants propagated in autumn, and kept cool and stunted in winter, will bloom much sooner than plants propagated in spring, in all such cases, the main dependance must be on autumn-struck plants. If exceptions are allowed, they are just the plants mentioned by our correspondent, *Verbenas*, *Alyssums*, &c., which bloom well in a young state; and, in some situations, bloom longer and healthier than older plants, especially if the latter have been curbed and coddled in pots.

I freely admit, that in the short paragraph, page 448, Vol. XV., there may be a want of clearness and explicitness. These articles are frequently written with little time to weigh all the outs and ins of a question. I merely wished to record a fact interesting to many readers, that in cold frames and pits, the Messrs. Caie and Scobie had a fine stock of bedding plants, after the severe frosts of the winter had passed; those frosts, to my own knowledge, having found their way into many a greenhouse, and laying the inmates prostrate. Even though, like our correspondent, I propagate *Verbenas* largely in spring, and, like him, can make a cutting, or two cuttings, out of every joint when necessary, I should still have felt bound to state the practice of these gentlemen, even though my own practice had not confirmed its correctness. The longer we live, we come to see more vividly that there are few royal roads to success in gardening; and that, like what the moralist said of governments, may often more truly be said of modes of plant-treatment, "that which is best administered is best" It is quite right, and essentially necessary, in these days, to have a principle of action to guide us; but however

clear and lucid our theory, we shall fail in working it out successfully, unless the little matters of detail are duly attended to. The noticing how the same beneficial results are obtained by different modes, and thus shaking the self-conceit out of us, is one of the advantages to be gained by visiting gardens.

In the present instance, the practice of Messrs. Scobie and Caie is worthy of our notice. The former of these gentlemen has greatly improved Holland House, and many can speak to the beauty of the large flower-gardens in early summer. Mr. Caie may be called the father of the grouping system. For more than twenty years Bedford Lodge has been a perfect floral gem. Twenty years ago, it was more celebrated than now, because the system was not so common, and propagating by the thousand was not so well understood. The wonder then, as now, was where the plants could come from, as the glass is very limited. In a few days (the 10th of April) it will be nineteen years since Mr. Caie read an essay on the subject at the West London Gardener's Association, which was published, with a plan, in "The Gardeners' Magazine" for 1837. Many of the most successful groupers of the present day owe much to that essay; and several, like myself, still mere, to intimacy with the writer. Even then, a considerable portion of the bedding material was struck in the pits, not in pots, and remained there during the winter. Merely as a matter of precaution, I believe, these gentlemen secure a portion of their stock in houses, where heat can be applied; and prudence would suggest this course in every case where the means exist.

Our correspondent may rest perfectly assured that his criticism is looked upon as quite the reverse of *impertinent*. To my own taste, we have too little criticism. Let the best of men have their opinions received without question, and you will soon make Popes of them to a certainty. These ideas are alone truly valuable that will stand the keen conflict of mind with mind, pass the scrutiny of the strictest inquiry, and endure the test of actual experiment. I am sure our correspondent will not be offended, however, if I say, that the want of clearness and decisiveness in my short paragraph is not greatly improved in his longer statement.

Unless for very early flowering, I have no fault to find with propagating *Verbenas*, *Anagallis*, *Lobelias*, *Senecios*, &c., in spring, where there are hotbeds, &c., for so doing. In fact, I adopt the practice largely. He owns that *Calceolarias* are best propagated in autumn, and are best kept in cold frames or cold pits; and most likely he would agree with me, that as large a section, like the *Geraniums*, and, I might add, *Penstemons*, *Salvias*, &c., are also the better for being propagated in autumn. *Heliotropes* and *Ageratums* do equally well propagated at either time; and as they strike freely, if there is little room, it would be economical not to have too many of these in winter.

The keeping of a stock in a greenhouse, or pit, *versus* cold frames, is also indeterminate, as it is not specified whether the pit is heated or not; and if not, then, for such purposes, if at all sunk in the ground, it is not equal to a frame raised above the ground level. For wintering all such plants, without fire-heat, this elevating above the ground is an indispensable. Even with fire-heat it is a great advantage. The idea of a pit is generally associated with part of the interior being below the ground level. If, on the other hand, the ground line of the pit inside was six or nine inches above the surrounding ground, I should not care much whether that position was bounded by brick walls, or by good boards, or planks, from two inches thick. As a security against frost, the boards, or planks, would be rather the best. I know of the frost penetrating through nine-inch walls of such brick pits frequently, when it

was kept out by a two-inch beard, the glass being equally well secured in both cases. This will meet several inquiries as to wood walls instead of brick walls.

The question now resolves itself into the comparative labour and trouble involved in spring *versus* autumn propagating, allowing that both were equally useful, which few, in all cases, will admit. Here it may be necessary to mention, that our critic has, unintentionally, no doubt, substituted a word. I did not say, "No trouble," &c.; but "little trouble or labour is lost" by the mode referred to. Had I written an article, instead of a squeezed-in paragraph, I freely admit that the mode would have referred less to the keeping of the plants in cold frames, than to the fact of inserting the cuttings in the beds at once (not in pots, as our correspondent supposes), and allowing them to remain there until thinned out into an intermediate bed, or taken at once to the flower-garden. My own experience, as well as that of the gardeners referred to, prove that many bedding plants can be kept well over the winter in cold frames, and be more healthy in spring, than those drawn and dried with fire-heat, especially when the roots are in the soil, instead of exposed to changes in pots.

The farmer's wife (she is generally the head-gardener) who uses her three-light box in May for Cucumbers and choice flower-seeds, may thus, with the same box, keep from 1200 to 1500 nice-rooted bedding-plants through the winter. If you ask me whether I would not like a hot-water pipe through such a frame, or pit, to use in sudden emergencies, I reply at once in the affirmative. It is best to be doubly sure, though, if there be not sufficient attention given to the plants, it is just likely that they who forget to cover would forget to light a fire. It is easier, of course, to keep a stock in a heated greenhouse in winter, if care be taken not to overheat, and from many of these, as has been seen, cuttings may be taken in spring.

Of these not mentioned, I would single out the *Petunia* for this purpose. In many places, autumn-struck plants do little good when planted out, when spring-struck plants and seedlings keep on without a break or stoppage. It is best when turned out of pots. *Penstemons*, *Ageratums*, *Salvias*, *Verbenas*, *Scarlet Geraniums*, *Cupheas*, *Calceolarias*, &c., do as well out of beds as out of pots, and often much better, as there is no firm ball to break. Whatever may be said of the extra skill and care required for raising great numbers of such plants in spring, I do not see how the trouble and labour are lessened. In fact, what led me, as much as possible to bed cuttings in autumn, was the conviction, that what was gained in room by merely keeping store-pots in winter, was neutralised by the labour, nicety of attention, and room required in the spring. Let us take, for instance, *Calceolarias* and *Verbenas*, or, rather, *Verbenas*, as our correspondent considers with us that the first do well in cold frames. There is, first, the labour of preparing the pots individually; the placing of the cuttings under glass somewhere; the necessary shading, watering, and hardening off; the getting into the house; the watering, &c., in winter; the firing necessary; the getting up heat in spring from hotbeds, or hot-water; the preparing of pots again; the inserting of the cuttings; the guarding of them from injury from over-heat, the sun, and from insects. I have found wood-lice, this season, a perfect torment, though catching pints of them. Then there is the hardening-off process again, and if very thick, thinning before planting them out; all involving a great amount of labour and trouble. In opposition to all this, the chief trouble and labour of the autumn pricking-out mode, even with cold frames, is the covering and uncovering in winter. With a fair proportion of litter, and, if possible, a water-proof covering, wooden shutters would last nearly a life-time, and how soon would their expense be eaten up in fuel. The litter

costs nothing, as it will ultimately give its value in manure. Gardeners do not require to be told how soon a man and boy will uncover a long range of glass. A barrowful of fresh sandy loam is placed in each light, with a little sand on the surface, patted down moderately firm. The cuttings are inserted from two to three inches apart in September, and shaded until they are struck. The sun gives all the heat that is requisite. As soon as struck, the harder they are kept the better, by full exposure to all the sun and air they can get, and protecting from rains. In fact, from the middle of October to the middle of March they will hardly ever ask for the water-pot. Whenever the outside thermometer ranges from 35° to 40°, air given top and bottom will keep the plants healthy and stubby. In severe weather, if the thermometer inside gets down to 35°, you may let your covering remain on for days and weeks. When thus cool, I have had *Verbenas* and *Calceolarias* shut up for a month, and looking strong and healthy when gradually uncovered. The furnaces of uncovered houses was no sinecure then. By the end of March, or the beginning of April, if the plants were getting too thick, they could be thinned into a bed, and protected with mats, or calico, as done by our friend Mr. Gardener. Thus, nothing in the shape of extreme nicety—nothing of artificial heat—no danger of steam from hotbeds, would be encountered, and all the bother of potting and unpotting, and carrying and lugging them from place to place, entirely prevented.

A friend of mine has entirely dispensed with pots and boxes for his *Scarlet Geraniums* for some time. He inserts thousands of cuttings in a Melon-pit in the autumn. He keeps them as hardy as possible in winter. He has the command of a hot-water-pipe when he likes, however. About the end of March the plants are lifted and planted out more thinly into an earth bed, made like a wide Celery-trench, and are there protected by straw, hurdles, &c., until May. It was lately detailed how Mr. Fraser, of Wilderness Park, strikes his *Calceolarias* under hand-lights, and keeps them there all the winter with the necessary protection of fern. I should judge that Mr. Scobie had 400 stout, stubby *Verbenas* in a light. A common sized light, with a little heat beneath it, would hold nearly 500 cuttings in March and April, as they would not remain long before being planted out.

In conclusion, all honour to our correspondent and others that succeed so well, and are advocates for spring propagating; and all success to those who, alike for beds and pits, in addition to covering, desiderate a hot-water pipe as a most valuable auxiliary. If, on the whole, the majority should decide on spring propagating, on the score of economy in labour and trouble, let me hint gently, that they will know where to lay the blame, when the filling every house with store pots becomes a more intolerable nuisance than it even now is, and other products wanted in spring and early summer must play second-rate to batches of cuttings. Many employers are quite up to the mark in the system of cramming their houses, though how that helps good gardening, or saves time, they stop not to inquire. Our brethren of the spade might do worse—especially those stinted in labour power—than make an effort to have a *proper place* for everything. Glass is cheap enough now, and yet the space under glass gets more crowded than ever. Look at a pit, or bed, filled with bedding-stuff, all with fibrous roots, inserted in the soil at once, heated, too, with a hot-water pipe, if you can get it, and think how much bother and trouble are saved, when, from the inserting of the cuttings in August and September, they wanted hardly anything before they were planted out in May, before which time the lights might be used for other purposes.

When any such scheme is tried, the great elements of

success are, a dry bottom, a raised surface, and means taken for throwing off the water to some distance from front and back. There will be time enough to think of this before autumn. Any reader who may gain any thing from this desultory paper, will owe their thanks to the Ayrshire Correspondent.

R. FISH.

CYPRIPEDIUMS, OR LADIES' SLIPPER PLANTS.

(Continued from Vol. XI., page 426.)

3. POSITION.—The frame to receive the plants after they are potted should have had a fresh coating or two of paint inside and out, or, if the paint is not required, the wood should be well washed with soft soap and warm water, to destroy all insects and their eggs or larva. The glass and putty should be thoroughly repaired and clean washed, and then the frame should be placed in a position facing the south-east. I prefer this aspect, because the plants will then receive the benefit of the morning sun, and part of the mid-day sun; whilst the long afternoon gives the plants time to recover from the sun heat and consolidate their growth. Having placed the frame, then have ready a quantity of coal-ashes, sift them, and lay the rough siftings at the bottom inside the frame; these will prevent worms coming up through the soil into the pots; then put in a layer of the fine ashes, thick enough to bring the pots within six inches of the glass; then place the pots, the largest in the back row, and fill in ashes amongst and to the back of them; afterwards set in the second row, and fill up between them and the first row, and so proceed till all the plants are in their position. Place the light on, and let them remain a few days closed up.

4. WATERING.—They will require no watering for a fortnight, and then only a very gentle one, just enough to settle the top soil and keep it moist. As soon as the young shoots appear above the surface of the soil a second light watering may be given in the fore part of the day, giving air at the same time. In all fine weather the plants should have an abundance of air, by tilting up the lights behind, or drawing them entirely off. As the season advances, this giving of air will dry the soil, therefore the waterings, as the plants advance in growth, must be more frequent and in greater abundance, only taking care that one good watering dries up before the next is applied. The greatest quantity of water must be given when the foliage is fully expanded, and whilst they are in flower. When in the latter state the water should never be allowed to wet the flowers. As soon as the lower leaves begin to fade the quantity of water must be lessened, and more seldom given, in order that the plants may be induced to go gradually to rest. In winter they require no water.

5. SUMMER TREATMENT.—Part of this has been incidentally mentioned under the head Watering. All that I have to add is, that in very bright, hot, sunny weather, a thin canvass shade will be necessary to protect the plants from too much evaporation. All weeds, as a matter of course, must be diligently drawn up and taken to the rubbish heap. Also, keep a strict look out for slugs and snails, especially in the early part of the year, just when the buds are pushing through the soil. If one or more should get into the frame and gnaw off the top in that young state, such a misfortune would almost be sufficient to kill the plant. Wood-lice are almost as destructive, therefore they must also be hunted for. A toad or two in the frame would devour them with eager rapidity. When the flower-stems begin to appear it is very probable the Green Fly will make its appearance also. They are easily got rid of by occasional smokings of tobacco. The Red Spider, too,

will in dry weather attack the leaves; the only way to get rid of them is by frequent spongings of the leaves, the sponge to be dipped in water strongly impregnated with sulphur. All these applications for the destruction of insects should be used whilst the plants are growing in summer.

6. WINTER TREATMENT.—This season I consider begins as soon as the leaves of the plants turn yellow, which generally happens towards the middle of September. Cut down all the dead stems and leaves, and clean the surface of the soil in the pots, being careful not to touch the crown of the plants. Draw the lights off every fair day, and stir up the surface of the ashes, adding a thin coat of dry ones. These dry ashes will absorb the damp air, and thus protect the plants from its evil effects. When the plants are quite at rest, cover up the pots with ashes and also the plants; they will then be completely at rest. In very severe weather, it will be of advantage to cover up the glass with mats, or a mat and straw. In long-continued frost they may be kept covered up constantly, day and night. In North America, it is well known the ground is covered with snow for many months, and that protects the plants in the earth from the evil effects of frost; therefore the covered up plants in frames and pits are in a similar state, as to the absence of light and heat, and are thus in as complete a state of rest as in their native wilds. When the spring time arrives the frame may be uncovered, and air given, but no water till after the potting time has arrived, when the annual supply, as described above, may be given.

7. PROPAGATION.—Whoever possesses rare plants is naturally desirous of increasing the stock for fear of losing one or more. Cyripediums are not difficult to increase, but the plants must be pretty strong before attempting it. The time for increasing them is at the time they are being potted, when the soil is all shook off the roots; then observe the buds, and pass the small blade of a knife between one and the next, observing that there are some roots to each division, and, at least, one bud. Pull the divided part carefully away from the parent plant, and pot it in a smaller pot, and place it in the frame along with the rest, cultivating it in the same manner in every particular. It will not require re-potting till the following season. In some cases, it may be desirable to split a large plant into two, thus making two comparatively good plants at once. This is, I believe, the best plan for an amateur. A nurseryman would act differently. He would split a good plant into as many as it would make, with a single bud to each. The amateur may do so, if he pleases, but he must then wait many years before his plants will be of any size, or able to bloom. I have been particular, perhaps even to tediousness, in giving instructions how to cultivate these beautiful plants, but they are, as I said before, worthy of every attention, and will, undoubtedly, reward an assiduous cultivator for his pains. T. APPLEBY.

(To be continued.)

HOW TO GET ON AS A GARDENER.

WHEN Mr. Beaton was writing about standard and pyramidal Geraniums, I, like many more, was fired with the idea, and on taking them up, I got several good specimens to begin with, and potted them off singly, in 32-pots, and taking advantage of a hint about that time in THE COTTAGE GARDENER, I gave them a little bottom-heat for a short time. Then, again, that idea of striking Rose-cuttings in the double pot. The very same morning that I read that article, I nearly pruned a Laurel hedge, in making or getting my hand in to making cuttings, and before I sat down to my dinner, I had a twelve-inch pot filled with various sorts of Rose-cuttings. The Doctor came by just as I was surveying

my morning's work, and pointing to my tall companions, the Geraniums, also to the pot of Rose-cuttings, asked the meaning of them. I told him what I was aiming at; also that I was determined to cut out our neighbours the next summer, in a display of flowers, and I was then laying the foundation, in part. The Doctor looked at me very seriously and said—"Peter! I would rather be without a Rose or Geranium in my garden, than have the best specimen that could be produced by such unworthy motives." I was wrong; and I saw it; so, I went over to my neighbour that same evening, and lent him the paper with the article on Rose-striking. But "he could strike them fast enough without all that bother;" though I believe he has not done so yet.

Now, about this time I was introduced to two young men, gardeners; in them I found that spirit which the Doctor wished to impress on my mind. They gladly gave me any information I asked for, and in the way of cuttings, they gave me not what I wanted, but what they knew I ought to have; and being tolerably well supplied with dung, I rummaged up every old window-sash that could be met with, and patched and mended them up, and brought them into immediate use, and with a good supply of pots, I followed the advice and instruction in THE COTTAGE GARDENER, and soon got a good batch of cuttings and annuals well rooted, and ready to plant out as soon as the weather would allow. I still kept sowing and transplanting, and planting in the borders, as the various bulbs died down, still I had a great many more annuals than I could make use of.

In beds when the first lot of annuals bloomed, viz.:—a Maltese Cross, and other beds after the same system, I had *Clarkia*, white and purple, *Bartonia aurea* and *Eutoca viscida*. Mr. Beaton urged the necessity of growing in pots to refurbish these beds as they fall off. I did so, though I did not see the real value of doing so till after. I cleared off the above bed, and put in the following:—*Salvia*, blue; ditto, scarlet; tall *Ageratum*, lavender; and *Pentstemon*, white. Not the best arrangement, you will say; but they kept up a good show till the frost spoiled them. I had a large stock of good, showy plants, in pots, which I had grown in the kitchen-garden, the pots plunged to the rim in pits, of which I shall speak more fully some other time. Also, a good bed of late-sown *Asters*, which were transplanted into the border as a vacancy occurred.

Speaking of transplanting, last August I had a vacancy in a long row of Dahlias, which spoiled the effect. I had a good many odd ones about that were not wanting in the borders at the time of planting, so I selected three in full bloom, made three holes for them, put the spade under them, and carried them to their respective places. I gave them a good soaking in the manner you advise in planting trees, put some dry mould on the top, and tied them to a good stiff stake. They only flagged for a day or two, and were the best I had after that time. They grew but little after, in comparison with the others, but threw out an abundance of blossom, closer and more compact, but rather smaller than the same sorts that were planted in the usual way. Now, I feel pretty well satisfied, that with growing in pots a certain number of plants for the autumn blooming, and adopting the system that Mr. Beaton recommended with *Asters* for late blooming, with all flowers that will bear transplanting, there is little fear of having naked flower-borders, until the frost creeps over them.

I got rather warm, one day, to the Doctor, on the subject of growing bulbs in pots, so as to get a display in spring, on the beds used for Scarlet Geraniums. He said he should like it very much, "but had I ever done so?" "No, Sir, I have not." "Then how did I know I should succeed." I replied, by reading the instruction of men who have done all this themselves, and a great deal more, and are now giving their present, and thirty years past experience, to such as myself, and who have not the ability to thank them through the Journal we read and profit by; nor the common gratitude to do so privately.

Well, Sir, the Doctor bought the bulbs I wanted, and is now highly gratified with their appearance. They were as follows:—*Hyacinths*, four colours, for one raised bed; *Van Thol Tulips*; and *Crocuses*, as recommended by Mr. Beaton, large yellow, *Victoria*, *Ne Plus Ultra*, and *Sir Walter Scott*. The last named was nearly a fortnight later in blooming than the others. They came in for the *Hyacinths*

as an edging. I shall be glad to know the best way to treat them after blooming.—THE DOCTOR'S BOY.

SENDING A BOUQUET BY POST.

As the question has been asked by one of your readers, I take the liberty to observe, that one of the best modes of sending a bouquet by post is that of sending it in a tin-canister, made on purpose, thus:—

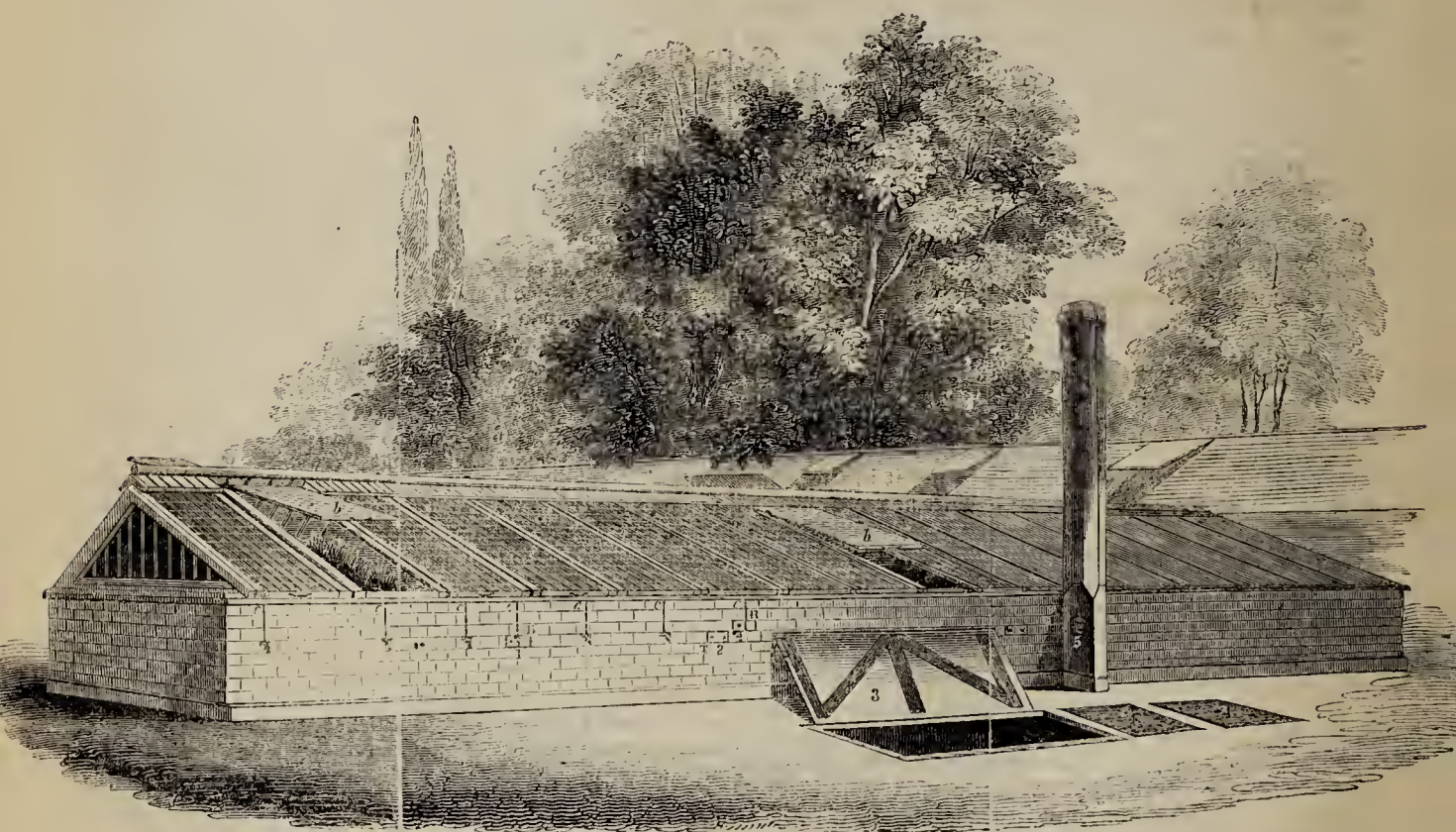
The canister should be cylindrical, opening at both ends; that is to say, the top and bottom should be made to come off. One of the ends, which may be called the bottom, is made with a small cylinder fixed upright in the centre. The bouquet is firmly fixed in this cylinder, which has a layer of damp moss all round it. Then the large cylinder, or body of the canister, is put in its place and covered. The whole is now wrapped neatly in paper, sealed, and

directed. A canister of about six inches deep and four inches in diameter will be sufficient for a small bouquet. In this case, the inner cylinder is about two inches deep and an inch-and-a-half in diameter. But, of course, measurements must depend on the size of the bouquet intended to be sent.

To send One or Two Single Flowers by Post.—Fix a cork in the small cylinder; make a hole down the centre of the cork by means of a nail or skewer, and fix the flowers in the hole.

In this way flowers may be sent two or three hundred miles without injury.

To send a large Bouquet by Rail or Coach.—Make a box to the dimensions desired, and nail to the bottom part four small pieces of wood in the form required, to hold the lower part of the bouquet, as in the cylinder. In every case it is important to have the top and bottom moveable, so that the bouquet may be conveniently fixed in its place, and taken out without damage to the blossoms.—P. F. K., *Paris*.



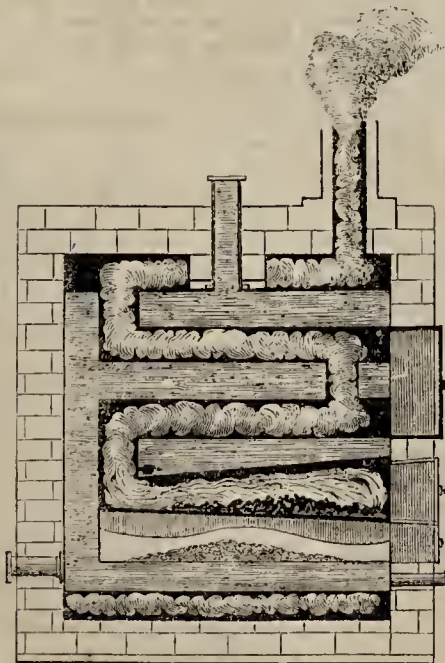
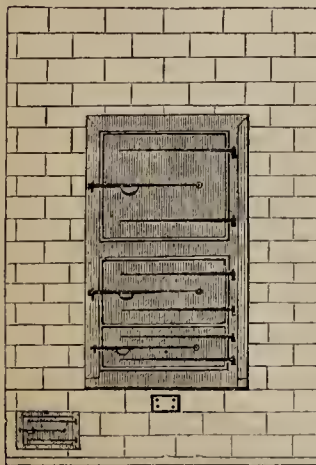
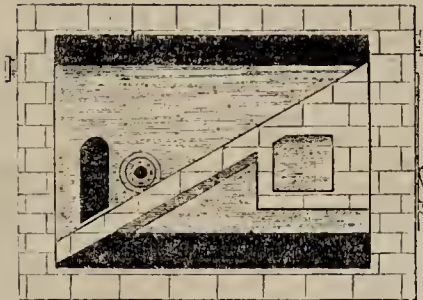
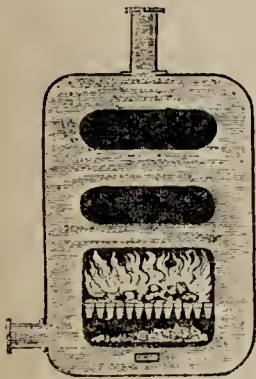
DESCRIPTION AND PLANS OF A RANGE OF PINE-STOVES, IN THE GARDENS AT BICTON.

By JAMES BARNES, Gardener to Lady Rolle, Bicton, Sidmouth, Devonshire.

THE following is some account of a Pine structure erected here, and having had both a winter's and summer's experience of it, I am now able to offer a correct opinion as to its capabilities and efficiency of working, which I am happy to state have been in every way most satisfactory, fully answering my expectations. The house was put up by Mr. Ware, of Exeter; and the heating apparatus, which answers admirably, was fixed by Mr. Kerstahl, of the same town. The boiler and apparatus have been newly registered, and are capable of furnishing either

bottom or top-heat, with a small consumption of fuel. In this respect it has a decided advantage over any heating apparatus I have ever seen constructed or had the working of.

The house is about 77 feet in length, by 16 feet 8 inches in width, outside measure. It is divided both at bottom and top into seven divisions, by means of 4-inch brickwork, sufficiently high to allow Pines to be cultivated in pots, or to give depth enough of earth, if at any time it should be contemplated to turn the plants out into the bed.



To make the partition complete to the roof, a sheet-glass sash rests on the brick-work, making each division about 15 feet in length, by 10 feet 6 inches in width, being room enough to accommodate from thirty-six to forty-two of the largest or full-grown plants. It is an equal span-roofed erection, just high enough to allow the plants to enjoy both sun and air; and in order to keep the foliage from being injured by the moving up or down of the sashes, and for the purposes of giving air and water, the ridge-piece (A) has an excellent convenience, in the shape of a small shutter or lap (B), which is fixed to the top, and hinged. These shutters act in connection with the lights: thus as soon as the latter are in their places, the shutters fall into theirs, and they are readily raised with the lights. Air may also be administered by means of tilts, which are fixed to the wall-plate by small chains (C). By these means facilities are afforded for supplying any amount of air at all times and seasons throughout the year; a great desideratum; and the supply can be so regulated as to suit either growing plants, ripening fruit, or plants swelling fruit. The hot-air chamber (D) in each division is warmed by 4-inch pipes (E), and covered in with 2-inch slate, resting on iron-bars, placed on brick piers. This slate bottom supports the plunging-bed (F), which consists of half-decayed leaves, famous material for retaining heat and moisture; (G) the end of the structure; (H) the 4-inch pipes for furnishing the top-heat; and (I) a perforated 1-inch copper pipe for contributing the required humidity. In each division the latter has a union joint, worked outside, by a small handle, the turning of which waters the whole of the plunging material, or part of it, as may be desirable; and the water may also be made to splash up against the slate-shelf (J), which runs round the house, just over the pipes. On this shelf French Beans are cultivated during the autumn, winter, and spring months; and from these a constant and good supply of beans is obtained.

No. 1 shows the handles of four valves outside the wall, for regulating the bottom-heat, and close to it are two more for regulating the top-heat: 2, in the next division, is for the same purpose: 3 is a trap-door (open) for entering the stoking-room and coal-cellar, which are under ground, quite out of sight, and commodiously arched in: 4 shows two neat cast-iron square ventilators, for admitting air and light to the cellar and stoking-room: 5 is the chimney-shaft, at whose base is a small iron door to afford access for clearing out the flue about that part where soot is liable to collect: 6 shows the simple way in which the lights are opened. On each side of the house, and running its whole length, is a neat pavement 10 feet 6 inches broad. The whole is thoroughly drained, and has a neat appearance. It will be observed that the fire has great command of the boiler, and the apparatus is so constructed that the whole range may be heated at once, either at top or bottom, or both together; or half of the range, or only its middle division, may be worked separately—a very economical and good arrangement.—(*Journal of Hort. Soc.*)

The annexed sections explain the construction of the boiler and its apparatus.

THE CULTURE OF THE PETUNIA FOR EXHIBITION.

In February, or as early in the spring months as possible, take off cuttings of the best approved sorts and those colours that will make the best contrast. Plant them in the usual way, and plunge them in bottom-heat, and keep them close for a short time. They will rapidly emit roots, and be ready for potting off.

When potted, place them again in a little heat for a few days, till they have made fresh roots, and have started into growth. Take off their tops to induce them to throw out side-shoots, which should be stopped when they have made three joints.

Give them another shift as soon as required, using the following composts, which I have found to suit them to my entire satisfaction. Loam of an open texture, well decomposed cow-dung, and a little leaf-mould and silver sand, just enough of the latter to keep the compost open and porous. To a barrowful of loam add half-a-barrow of cow-dung, leaf-mould, and sand, well mix together.

If the plants are in three-inch pots give them a shift into small forty-eights. After repotting be careful, in watering, not to give more than will keep the roots in a moist state, for if the plants are over-watered at this season of their growth they seldom get over it to do much good. Be in the error of keeping them too dry rather than too wet for a time, till they get properly established.

Give them a situation where they will have plenty of light and air, with a little heat to keep them growing on steadily. Water them occasionally with weak liquid-manure, to induce them to grow vigorously.

As they advance in making nice bushy plants, peg them out regularly over the surface of the pots, to admit light and air to the middle of the plants. Continue to stop them at every third joint, and give them another shift, as soon as the roots have reached through to the side of the pots, and before the roots become matted together, into thirty-two sized pots. Keep them close for a few days after potting, till they have made fresh roots.

As the plants progress give them unremitting attention, and let them not suffer from the want of tying out and stopping, for on this principally rests success. Let the shoots not grow into confusion, before you think about training them out, for this is a ruinous system of growing plants. I know it is often done, and what is the consequence? Long joints, thinness of foliage, and oftentimes a deficiency of bloom, and disappointment in the end.

As the plants fill the pots with roots give them a shift into eight-inch pots. This will be the last shift, and be sufficient to grow plants, with proper management, as well as any one could wish. At the end of May, or the beginning of June, if you have a spare pit, or frame, give them a place in it as near the glass as convenient. On fine mornings and evenings, a light sprinkling over the foliage with clean rain water will be beneficial to them. Give abundance of air, by raising the lights at the back, but at all times avoid a draught; open exposure is preferable. Water three times a week with liquid manure.

If you wish to exhibit the Petunias at the latter end of August, continue stopping them up to within a month of the time. After stopping the last time, keep them close for a few days, till they have fairly broken, then expose them to the full rays of the sun for a week, after which place them in the greenhouse, give them plenty of room, so that a free circulation of air may pass between the plants. Stand the pots in large saucers, and keep them constantly full of liquid-manure. Pinch out the blossom-buds up to within ten days of the exhibition. Shade them from the burning sun. Those who will attend to the rules here laid down, with unremitting attention will have plants three feet in diameter, and about a foot-and-a-half high, with healthy foliage down to the pot, and with such a mass and profusion of bloom as will astonish and please all who see them.—J. M., *Bowood Park*.

CHILDREN'S GARDENS.

NO. II.

SITUATION may appear to be a point of little consequence to those who suppose that any out-of-the-way corner will suffice for the purpose; but as such is far from my own opinion, I shall make a few remarks on this not unimportant particular, conceiving that, though the circumstances on which choice depends differ greatly, a few hints as to what to avoid may yet be useful to persons who have not directed their attention to the subject.

First, then, the children's garden ought not to be in a bleak situation, for the cultivator would be certain to take cold by standing about while heated. Neither should it be too exposed to the noon-day heat, or head-aches will be a frequent result. Nor, lastly, should it be in so prominent a position as to render the experiments and failures of its occupier an eyesore to yourself. An ingenious boy is likely to try his hand at structural embellishments, so that you may find rockeries and rustic ornaments erected in total disregard of their effect from any point of view beyond the domain of their designer. It is as well, therefore, to prevent the chance of having to forbid attempts in themselves laudable. I have found a western aspect free from the first two objections; escape from the last one is obviously dependent on the general plan of the grounds. If the border is wide, it will be a good plan, for the sake of the gravel-walk, to recommend some simple mode of laying it out so as to avoid the necessity of treading on the fresh earth. The limits of each child's plot should be clearly defined.

Whatever may be asserted in favour of communism, any person who studies the feelings of childhood will soon discover that a desire for individual, exclusive possession, exhibits itself at so early an age as to afford strong evidence for supposing that it is a principle of human nature. If this truism be tested by my subject, it will be found to hold good; for the first interest a child feels in his garden arises from the thought, "This is my own, to do as I like with!" Inquiry into many cases has convinced me that a forgetfulness of this youthful feeling, or an infringement upon this liberty of action, is the main source of indifference and neglect.

Let me cite a few instances. "I don't care for my garden," said a little girl, "because if I don't plant the flowers where Pa likes, he looks cross." "I don't see any fun in having a garden when one can't do as one likes," said a schoolboy, whose father expected his advice to be asked and acted upon on every occasion. "I haven't planted any thing this year," said another, "because Mamma talks of making a shrubbery here soon, and it's no use planting things to be dug up." It requires no learned pundit to draw the inferences from these examples, so let us proceed. Whatever plant is once bestowed should never be taken from the recipient without his full, free consent. The father of a school-fellow was a Polyanthus-fancier. Among some seedlings he gave to his son, it happened that one turned out first-rate, and, without reflection, the father unceremoniously removed it, and by its help obtained a prize. Was he really a gainer? I think not. Had he said to his boy, "Shall I put your plant in my stand?" the lad would have gladly consented, and felt himself to be a participator in the triumph; but as it was, he neglected his garden from that day, justifying himself to his companions with—"It's no use my gardening, for if I grow any thing good my father will take it." While the parent sorrowfully remarked to his visitors, "I can't think why it is, but George, who used to love his flowers, now cares nothing about them."

I will only observe, further, that the golden rule I find to answer perfectly is, "As much advice and assistance as you can afford, and as few orders or restrictions as possible."—E.

(To be continued.)

PRACTICE IN RUSTIC WORK.

THE mere form of rustic stands admits of but little variety. There are so many squares, so many circles, or so many ovals, and then the same thing must be repeated again and again; but when we come to ornament, we can relieve the monotony in a hundred ways or more. Putting a few sticks

together is, after all, a common-place affair; filling a stand with pretty flowers is not enough; the stand itself must be pretty and ornamental: accordingly it is decorated with Everlastings in such a way as to represent so many wild flowers, and yet be in perfect keeping with the principles of such constructions. I shall send you, at some future time, a few designs in this way; at present, I enclose a sketch of a single flower, such as is commonly seen on different de-



scriptions of rustic work here. The stalk and leaves are made of common cane; but when that is not to be had, willow, lilac, or ash twigs, would be good enough; only it is necessary to be careful not to split them in nailing. The petals of the flower are formed of fir-cone scales; sometimes the half of a small larch cone is stuck on at the centre; but in the present case, a circle of white wood is shown, with angular rays of the same material at regular distances. Whether this is intended for a Rose, a Camellia, or a Dahlia, I cannot undertake to decide; and, perhaps, such a point may not be of much importance; but it is very effective

in a group of others neatly fixed to the side of a flower-stand or *corbelle*. These ornaments are always varnished, and not unfrequently the whole of the work receives a coating. It is necessary to cut off so much of the lower ends of the scales, which may be either glued or nailed to the wood.

There is in ornaments of this kind plenty of work for diligent young hands; and in the country there can be no lack of materials.—P. F. K., *Paris*.

QUERIES AND ANSWERS.

GARDENING.

HEATING DIFFERENT HOUSES FROM A WEEKS' BOILER.

"I have a conservatory and a vinery in connection, heated by one of Weeks' upright tubular boilers, which is situate in a back shed, nearly between the two houses. The supply-cistern is directly opposite the boiler, but inside the vinery, in the corner next the conservatory, in which cistern originate the pipes which heat the two houses.

"It is now contemplated to erect another low span-roofed house at the end of the vinery, for growing Cucumbers, &c., in winter, and Melons in summer.

"I want to know if it is practicable to join to this boiler a flow-and-return main pipe for heating this new house; and, if so, whether a proper command could be had of top and bottom-heat, by branches from the main pipe after it had entered the house? And, by the same rule, connecting the top and bottom return pipes; thereby necessitating only one flow-and-return between the boiler and house. And whether the different flowings would be more effectually secured by the main pipe having a shut end in the house?

"And, in consequence of the supply-cistern being in the vinery, a considerable amount of unnecessary heat would be constantly in attendance. Would not another supply-cistern erected in the shed above the boiler remedy this evil? And would it be necessary to have the two cisterns exactly on a level, to secure perfect flow in all three houses at once, when necessary?—J. S., *Hammersmith*."

[As you have got a Weeks' boiler, and are no great distance from that firm, would it not be advisable to have a five minutes' chat over the circumstance? There will not be the least difficulty in having a separate flow-and-return-pipe, and a separate cistern for the new house, placed on the same level as the other, and where it will be most convenient for you; nor can there be a doubt, that for a main flow-and-return in the new house, according to the heat applied, you will get as much top and bottom-heat as you choose, but if nothing of the kind has been contemplated when the boiler was set, so as to leave a flow-and-return socket arm out, but plugged, you would have to make alterations at the boiler, attended with trouble and expense. All this, or nearly all, would be avoided, by taking a flow-pipe from the cistern you already have, and then the return-pipe could be joined near the boiler to the main return-pipe there. We see little harm in all the unnecessary heat radiating from the cistern in the vinery, when not particularly wanted there, as I presume, in winter. But the heat will be there when you heat the conservatory, at any rate. By-and-by you may find that you want to keep something in the vinery, even in winter. All the heat from the cistern can do no harm, and if you open a sash and let it escape, it will not be more lost than it would be by having the cistern in the back shed. Though seeing the propriety of heating the main house separately, yet we are so convinced that a little heat in the vinery would not be hurtful at any time, that instead of taking the connecting pipes by any other route, we would, if convenient, take them through the vinery. Should you wish to heat a back shed with them, that is another affair. It would be a pity to lose it altogether.]

STRAWBERRY PLANTS ROTTING OFF.

"Some Strawberries the other day were put on a shelf in a stove kept at 60°, near the glass, and with feeders (or pans) under them. A great number of them have rotted off just above the soil, and those that remain (they are in

flower) are looking very sickly. Do you approve of the pans under them?—A SUBSCRIBER."

[It is too great a heat to put Strawberries in a temperature of 60° at once. If they had been in a frame, so as to average 50° for a time, they would have a better chance. Still, under the circumstances, at this season of the year they ought not to have shown such results as you mention. We fear the plants have not been properly prepared in the autumn, or have had the crowns injured by frost and cold in winter. The result you mention also takes place in dull weather, from careless watering, either pouring the water on the crown of the plant, at all times bad in-doors, and more especially in dull, foggy weather, or in leaving water in the flats for several days. At all times, but especially in early forcing, no water should stand in the saucers until the plants are setting their fruit. To avoid this in early forcing, we prefer placing the pot on turves of soil, the earth uppermost. The bottom of the pot thus absorbs sufficient moisture, and no stagnant water is retained.]

HEATING WITH HOT-WATER PIPES.—HOW TO AVOID A DOOR-WAY.

"I am about to heat a small propagating or forcing-pit with hot-water for top-heat. I want one pipe round the pit. I have a path down the centre, and, for reasons I have, must have my entrance at one end, and the boiler at the other; consequently, the pipe must cross the doorway. I had an idea of carrying the pipe level until I come to the door, which will be about fifty-four feet from the boiler, and then passing it upwards over the door-head, and bring it down to the same level, and take it down the other side of the pit, still level until I come near the boiler.

"Will the hot-water rise at the door, after leaving the boiler that distance? or must I have a receiving box at the boiler elevated above the highest level of the pipe? or must I take it down beneath the level of the floor? If so, must I keep the bottom of the boiler below, or as low as the lowest level of the pipe, to insure free circulation? and will it be necessary to have a receiving box, or syphon, at the boiler carried up above the level of the side pipes?

"If I carry it over the door-head, it will rise two feet nine inches, but if carried under the floor it will fall three feet nine inches.—A SUBSCRIBER."

[Proceed thus:—Take your pipe along the one side, to the doorway, and in the fifty-four feet let it rise three inches or so to the doorway, instead of being level, there have an air-pipe, or, better still, your supply-cistern or open socket; from thence take your pipe below your doorway, and raise it to the same level on the other side, provided the pipe beneath the doorway is higher than the top of your boiler. On the top of the pipe, on this second pipe, and close to the doorway, insert a quarter-inch air-pipe, and from that point let the pipe decline to its boiler, as much as it was raised on the other side. This seems the simplest mode, according to your own plan. Would you allow us to suggest a better still. Whatever you are going to have for bottom-heat, it would be more regular, and render you more independent, by having a pipe passing through it, and an extra five pounds would be well spent. All you would have to do, would be to take a flow-pipe along each side, and bring the return through your bed. You could thus heat either side at pleasure, and you would have no trouble with your doorway, as at that point the pipe would have a circular bend, and return again to the boiler. If this is adopted, the end of the pipes next the doorway must be the highest.]

MANAGEMENT OF A DUNG-BED FOR CUTTINGS; AND IN A VINERY.

"Will you be so obliging as to say, whether it is a good or safe practice, when making a hotbed in which to strike cuttings, and raise plants from seeds, &c., to leave the surface of the dung (within the frame) entirely uncovered, merely placing the pots and seed-pans on it, if not too hot, in which case to have just so much space as is needed, covered with a few inches of mould, on which to set the pots, while the remaining uncovered portion gives up, unchecked, the reeking vapour and odour into the frame? My

gardener thinks that they are beneficial rather than hurtful; an opinion in which I cannot agree, until I hear it confirmed in your paper.

"In a Vinery, which has a brick flue, and also a pit to be filled with heating material, can we use leaves of Laurel, Holly, and other evergreens, and of some Beech (perhaps one-half of Beech), they are now quite dry? How should we proceed with them, to make them heat?

"If they are unfit for this purpose, can we use stable dung? If we can, should the surface be covered over with mould, or other matter?—A VERY GRATEFUL SUBSCRIBER."

[You are both right. Everything thrives in such vapour that will stand the heat, provided the dung is quite sweet. Though well made, a little bit will sometimes pass unnoticed, and the steam from it will do mischief to any thing tender. As a security, and also as being more cleanly, it is a good plan to cover the surface with a few coal-ashes. If your gardener, however, prefers the first plan, you had better let him have his way. If experienced, his nose and eyes will tell him when to venture, and if he should have a slight misadventure, it will be bought knowledge he will not forget.

All the materials you mention may be mixed together, and watered as they are put into the pit. Of themselves, the steam from them will do no harm. We mean the leaves. The dung, if mixed, will cause the heat to come stronger, but it must be sweet before it is admitted, if there is anything green in the house. Two months ago, when the Vine buds were hard, and there was nothing else in the house, you might have put in the dung and leaves at once, and wrought and sweetened them in the house, to the benefit of the Vines, because it would be sweet before the buds broke. But you could not do so now, even if you covered the surface. With the leaves alone, have the surface uncovered, and turn the leaves at times.]

FIGS FALLING OFF.—SOIL FOR APRICOTS.

"I have some Figs at the back of an early Peach-house, which had a first-rate show of fruit, they came to the size of marbles, some larger, but now they are falling off. The house is kept at 60°, and they get the same treatment as the Peaches, and these look remarkably well. The Figs are on young trees. I have a nice crop of fruit (Figs) in the other Peach-house. Is having Figs at the back of a Peach-house a good plan, or not?

"I also wish to ask you what soil Apricots like best. I have some on a south wall, in good, rich soil, and they do not do as well as I should wish them. I also have some Apricots on a west wall, in much poorer soil than the others, and they thrive.—SMITH."

[Are your Figs shaded at all, if so, the softness of the wood will account for it. If not shaded, then we suspect they are too dry at the roots. If this is not the case, and the shoots are very strong, check their growth by root pruning.

A strongish loam suit Apricots best. We suspect your soil on the south wall is too rich; substitute poorer, or cut the roots a little in September, as soon as the fruit is gathered, that will cause flower-buds to form.]

LINUM GRANDIFLORUM, PERILLA NANKINENSIS, AND TROPÆOLUM SCHEUZRIANUM CULTURE.

"A. M. R. will be obliged by the Editor of THE COTTAGE GARDENER informing him the proper culture of *Linum grandiflorum*, *Perilla nankinensis*, and *Tropæolum Scheuzrianum*."

[*Linum grandiflorum*.—Unless you are a very good hand at rearing seedlings, you will have a world of trouble with this plant, and fail to bloom it, after all. If you can flower it, however, it will pay you. The nearest and best way is to raise it in a gentle hotbed, in sandy soil, to get it out of heat as soon as the seedlings are up; but to keep them from strong sun and too much air, till the end of May; to repot them three and three in 60-sized pots, and when they have filled these pots with roots, to plant them out on a warm border, all except one pot, which you may try to flower under glass.

As to the *Perilla*, you can grow it easily enough. The

simplest way is the same as for Tomatoes, or Capsicums, or early Mignonette. It is very curious, and a patch or plant of it, here and there, makes a strong contrast to the green of other plants.

If you sow the seeds of the *Tropaeolum* in the open border, they will come up and do like common Nasturtiums; but we prefer it from cuttings, managed like Verbena cuttings.]

SEED OF LOBELIA RAMOSOIDES.

"I have a packet of seed marked *Lobelia erinus ramosoides*. Can this be the seed of that beautiful, little, dark-blue variety, called *Lobelia ramosoides*? I was not aware that it yielded seed. Will you inform me if it does? If it comes true it will save a world of trouble in taking cuttings.—DELTA."

[When the *Lobelia ramosoides* was first obtained from seeds it was most certainly as barren as the desert, and no one could cause it to seed any how. But now, seeds by that name are sold by so many respectable houses, that we cannot gainsay them without actual proof. Send a small pinch of it to Mr. Beaton, Surbiton, near Kingston-on-Thames, and we shall be certain about this question as soon as the seedlings come to flower. We may add, that we are aware of a recent change in the opinion of our coadjutor, with respect to such questions as these about barren plants. It is well known, that some seedlings, which are barren at first, will produce seeds after a few years. The *Tom Thumb* Geranium is a subject of the kind. Now, Mr. Beaton's new idea is, that old plants often become barren through long neglect and bad management, such as some of the old-fashioned bedding Geraniums; but that it is possible, in some instances, at least, to restore them to a fertile state by a course of high management during a certain number of years.]

A NATIVE BEDDING PLANT.

"Believing that you, like myself, are ever on the look-out for really useful things for the flower-garden, I venture to send to you a morsel of a plant which, in my opinion, is a most useful thing, and which, from my never having seen any mention of it in THE COTTAGE GARDENER, may possibly not have come under your notice. I, myself, have seen it only in one other garden besides my own, and I can find no trace of it in the catalogues of any of our great plant suppliers. You will see that it is a *Salvia* (?); it is of a creeping habit, low, and close in growth, and with variegated leaves. In winter the leaves become almost entirely green, but, as the season advances, become more and more variegated, and frequently entirely white. It is nearly, if not quite, hardy. I left all my edgings of it out all last winter, and most, if not all, of them are at present alive. I have used it as a bedder for small patches, and as an edging. For both purposes it is, in my opinion, admirably adapted. The effect is quite as good as that of Mangle's Silver bedding Geranium. It may be kept clipped with the shears as close as a box edging, and possesses the further great advantage of being one of the easiest things in the world to propagate. If you like to give it a trial for one season, before you pronounce upon its merits, or demerits, I will, on a hint to that effect in THE COTTAGE GARDENER, send you a few plants of it. I feel sure that you will find it a fit companion for the *Saponaria*, the *Campanula*, and the *Alyssum variegatum*.—A YORKSHIRE CLERGYMAN."

[From the "morsel" sent, we should say the plant is a *Glechoma*, or a *Hyssopus*, or something allied to them. Be that as it may, we shall be glad to try it in our experimental garden, and report on it as soon as we are able. We expect to hear of many more such unknown plants as soon as our new scheme is sufficiently known. Upon further consideration, we think your plant is *Mentha rotundifolia*, variegata.]

TO CORRESPONDENTS.

DAHLIA-BED (*A Constant Reader*).—Your raised bed, ten feet across, circular, and in the middle of a grass plot, will look very well with Dahlias. One plant in the middle, one row eighteen inches from the grass, and another half-way between it and the centre plant, is the

proper way to dispose of it. A Dahlia which is three feet high requires a space of three feet between it and the next, and so forth with all other heights and distances. No one can depend on the right planting of a Dahlia-bed unless the height of every plant in it is known before-hand; but if you take the trouble to train down the Dahlias, the distances between the plants are of not so much consequence. Forty or forty-two inches apart would be an average for all trained-down Dahlias, unless the soil is very rich, and if so, it is not fit for bedding Dahlias at all. You will find all needful information in the most useful articles on Dahlias by Mr. Keynes, of Salisbury, who can supply you with all the best sorts. As to how the colours should stand, one's own taste is by far the best for private use.

DRILL RAKE (*Sambo*).—This is a good but a very old idea. Many such have been suggested.

AMERICAN CRANBERRY (*Rev. C. P. C.*).—Messrs. Donald and Son, nurserymen, Woking, Surrey, will give you the information you require.

CHINESE POTATO (*G. P.*).—Any of the London seedsmen who advertise in our columns could supply you.

PIGEON PRIZES (*Almond*).—We have no copy of them, and it is now too late.

HARE'S-FOOT FERN (*I. H. M.*).—The generic name is *Davallia*, and all the species are called Hare's-foot Ferns; but the Hare's-foot Fern is *Davallia canariensis*.

HEATING WITH HOT-WATER (*W. H. E. M.*).—For almost every purpose a night temperature of 64° should do. As you want more, it should be given by the command of piping you have, if your boiler is any size at all. We presume the four-inch pipe is the flow, and the three-inch the return. The return should always be as large as the flow. In this case, see that the flow-pipe rises two or three inches to the extreme end, and that there is an air-pipe or an open cistern there. If both pipes flow from the boiler at one side, and return at the other, an air-pipe should be inserted at the highest point. You will lose atmospheric heat, in the first place, by sinking the pipes; but still, with the quantity you have, you ought to have more heat in the house, and more heat in the pipes. The fifteen feet from the boiler should be in a hollow tube, with an opening at the other end, which will give you fresh-heated air. If these suggestions do not meet your case, let us have a fuller description and a rough plan, and we will do what we can.

DORONICUM AUSTRIACUM (*S. Appleby*).—Your plant is *Doronicum austriacum*, which is, probably, the same as *Columna* of THE COTTAGE GARDENERS' DICTIONARY, and *Columnare* of "Backhouse's Catalogue," quoted by Mr. Wood in *The Gardeners' Chronicle*. The acknowledged name of *Doronicum Caucasianum* is *Orientalis*, according to the last edition of the "Encyclopædia of Plants," in which there is a good woodcut of *Doronicum austriacum*. *Doronicum columna* is, doubtless, a nonentity. Certainly so, on the best authority—the "Encyclopædia of Plants"—which makes no mention of it. *Orientalis*, alias *Caucasianum*, comes nearest to *Austriacum*, but the two are very distinct botanically. We are much obliged by the offer of plants of it; but it has "poured" in upon us from nearer home. If you advertise it, say that it is one of those plants which should never be seen in "patch-work." A whole bed of it, or none, should be its motto.

NAME OF NUT (*O. Lewis*).—It is the *Areca Nut*, the produce of an East Indian Palm; used with the Betel-leaf for chewing as tobacco is chewed in England. It can be obtained of the wholesale druggists and drysalters.

NAME OF FLOWER (*Mrs. J. M. Wright*).—The plant now in flower out-of-doors, and which came up among some annuals the year before last, is *Primula capitata*, or Round-headed Mealy Primrose. It is a new plant in this country, being raised from seed gathered by Dr. Hooker on gravelly banks at Lachen, in the Sikkim Himalaya, one of the passes into Thibet, at an elevation of 10,000 feet above the sea's level.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and Aug. 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close April 30th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colechester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray.

HULL AND EAST RIDING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

PARIS. May 23rd to June 7th. Sec., M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

PRESCOT. July 3rd. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

WHARFDALE. April 18th, at Otley. Sec. Mr. T. Metcalfe, Otley.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

N.B.—Secretaries will oblige us by sending early copies of their lists.

CLOSE OF THE POULTRY CONGRESS.

Your reporter draws to the closing scenes of his labours. There is little doubt peace will be concluded to-morrow. It

may be considered a certainty, and, therefore, some notes of the last sitting may not be without interest.

The *Tame Eagle* was admitted, and attempted to assume airs; but the assumption was awkward in the extreme. He wished to be put on the footing of a successful exhibitor, and declared he was so in 1851; but the *Dorking* told him that things were altered since then, and that he was there "pro forma" only. This poor bird's life has been made up of late of protests and submissions, and he now settled down in the latter capacity, merely remarking, they did not know the sacrifices he had made to bring about an agreement, nor the exertions of which he was capable.

The *Ghoorcock* said, his question was constantly evaded; he wished to know who was to pay the losses he had sustained. He seemed something in the position of the ass in the fable; whether the enemy were beaten or not, he had his burden to carry.

The *Serai-ta-ook* hoped everything would now be arranged, so that he could enjoy his life; for, of late years, every day brought its trouble.

The *Game Bantam* thought the opportunity a good one to say a word about the class to which he belonged. Parcelled out as they were, they formed an apparently unimportant class; but if they were united they would have as many entries as any of them.

The *Austrian* said this was not the proper business of the Congress.

The *Game Bantam* said it was, and unless something were done another would soon be necessary. His class was on the successful side, and at present it seemed they would be none the better for it. They had not joined the *Dorking* and *Crève-cœur* from interested motives. They did so because they thought them right; but his class also had rights, and, as its sole representative, he would raise his voice, and the records should hereafter prove that he had done his duty.

The *Austrian* denied that the *Game Bantam* was the sole representative of those classes; he was one of them.

The *Game Bantam* said, he represented them so well, that if he did not guard the doors of his pens, all those he professed to represent would immediately leave him.

Both parties were getting so warm, that the *Crève-cœur* interposed, and said, they had better confine themselves to their strict business.

The *Ghoorcock* said, he thought so too, and nothing could be more proper than that his claim for compensation should be seriously entertained. He also complained that even now, at the close of the negotiations, he did not know to what class he belonged.

The *Serai-ta-ook* said he belonged to them.

The *Austrian* said that was not settled.

The *Crève-cœur* congratulated them on the termination of their labours, and on the dignity each representative had shown in support of his class.

The *Tame Eagle* was happy to believe they had all deserved the respect of their fellows; and he could not express the pride he felt in being one of those who had contributed to remove all difficulties, and to substitute a state of concord for one of disunion. He had not before had an opportunity of saying much, and he could not resist the desire he felt to explain to those assembled that he did not doubt the day would come when they would do him justice, and own his exertions. He would be happy to offer them a feather from his own wing wherewith to sign the treaty of peace.

The *Ghoorcock* would not disturb their unanimity by entering a protest; but he must and would remind them, that he was not indemnified for his losses, nor was his class definitely settled.

The treaty was then laid on the table for signature. After the *Crève-cœur*, as President, had signed, there was an awkward pause. The *Black-breasted Game* pushed the *Dorking* forward to sign first. The *Austrian* objected.

The *Game Bantam* said, the parties who had been actually engaged should have precedence.

The *Crève-cœur* suggested alphabetical order, which was adopted.

The *Serai-ta-ook* said, he had always thought it would end in his being last.

The treaty was then signed.

When the different delegates left the place in which the sittings had been held, they were greeted by those outside

according to their feelings. The *Crève-cœur*, *Dorking*, and *Game Bantam*, were loudly applauded. The *Austrian*, although he assumed more importance than any, was allowed to pass in silence. The *Tame Eagle* was greeted with roars of laughter. The *Serai-ta-ook* met with a very warm and friendly reception; numbers, both of English and French, greeting him with—"Bono Johnny." The *Polander* was also well received; and it is plain that he has lost no friends. He has manfully disputed his ground, and his old acquaintances, forgetting the past, will rally round him.

It is said the *Black-breasted Game* offered the *Polander*, *Austrian*, and *Eagle*, to fight for love at any time.

PRODUCE OF SHANGHAE PULLETS.

A REGULAR Reader of THE COTTAGE GARDENER, I scan with eager interest all contributions which show how refining pleasures and cheap luxuries may be placed within the reach of persons in narrow circumstances. With thousands of others in these days of war taxation, I have carefully to watch the expenditure of every sixpence, and cannot afford to lay out one unless I get sixpennyworth in return.

My garden and poultry must be self-supporting; for unless they are this, I must abandon them altogether; although the first furnishes the only objects of beauty which I possess, and the latter stand to me in place of the rich man's stud, kennels, and home farm, being at once exercise, occupation, and a rest from mental labour. Stimulated by some of the accounts published in your pages, I, last year, kept a careful list of the produce of four *Cochin* pullets. These certainly maintained themselves. If you like to insert my notes, they may call forth from some of your readers statements to compare with mine, or hints in management more valuable still. All accurate observations are worthy of notice. I send such as I have, in the hope of reading, in return, the facts collected by others, who have ampler opportunities than fall to my share.

	I.	II.	III.	IV.	TOTAL.
January	10	—	26	3	39
February	—	25	13	26	64
March	21	19	11	2	53
April	21	3	5	21	50
May	3	22	19	17	61
June	11	12	19	—	42
July	18	14	3	18	53
August	26	7	17	2	52
September	17	16	13	14	60
October	15	25	15	21	76
November	11	14	—	—	25
December	20	—	5	—	25

Altogether, 599 eggs from four hens in twelve months, an average of 149½. Of the whole number, 289 were produced in the scarce months, from September 1 to March 1; the remaining 310 were laid during the cheaper time of summer.

The 289 eggs in winter were worth not less than 1s. for 14, or 20s. 9-14. The 310 summer eggs I put down at 1s. per score, or at 15½s. The entire money value of the produce of four hens is 36s. 1-7, a sum amply sufficient to pay for their keep, were everything to be purchased for them. I have seen the keep of *Cochin* fowls estimated at 2d. per week. They may, certainly, be well fed for this sum. I give, once a day, a good feed of sound corn, and in the evening a liberal supply of mashed potatoes and turnips, with barleymeal and miller's pollard, given warm, with all kitchen refuse. Besides, my fowls have all the cheap attentions recommended by your contributors; plenty of green food and burnt oyster-shells, a run repeatedly dug over, a clean roosting-place, and a dry corner to dust themselves in at their pleasure.

Otherwise they had no local advantages. The greater part of the time they were confined in a space fifty-five feet long by thirteen feet wide. In the autumn months they ran in and out of a kitchen-garden containing about ten rods of land. I kept *Cochins* for the simple reason that I can keep no other. Mr. A., on one side, is captious of

trespass in his garden, thinly fenced from mine. Mr. B., on the other hand, has dogs and boys who would speedily destroy every bird that might cross their boundary. The Cochins vex neither one nor the other neighbour. They stay at home, eat heartily, lay regularly, and are content to spend in the dust-bin the greater portion of their time. Most convenient creatures for men of small domains.

Still, I never intend again to keep them the whole summer through. April pullets, purchased in August, and got rid of in March, will give the least trouble, and the greatest return. Such birds will average not less than seventy eggs a piece during the time they remain with me, and make no contemptible dish at the end of it, for the hearty offspring of—FELIX RABBIT.

SOFT EGGS.

I wish the readers of your periodical would be more communicative; scarcely do I perceive the commonest question replied to. There appears to be a kind of selfish secrecy in poultry amateurs, no giving and taking in the matter, no feeling but that of monopoly, not emulation, but gain, and thus we amateurs, who really mean to be exclusive in our breeds, care very little, when the exhibiting season is over, whether you know the cause of our success or no, and are free to answer all inquiries. Still, I am very sorry to say there are many very selfish persons in our class, and if it were not for your answers to queries, addressed exclusively to yourself, 'pon my word, no information would be promulged at all.

I would tell "G. M." that I had a bird who constantly laid soft eggs, and they appeared to be very large indeed. She was constantly uneasy, squatting about, and was evidently suffering from a bearing down and relaxation of the egg-passage. Thinking that the outer covering of the shell was deficient in calcareous deposit, I gave lime, sand, milk, &c. Well, not caring much for the bird, she escaped notice for some time, but on inquiry from my lad, I found she laid more frequently than any of the others, a smaller egg, but particularly hard in the shell. Of course, I walked away quite satisfied with my treatment, until I caught the urchin grinning aside; the truth was, he had emptied a two-ounce bottleful of castor oil in a week, and put an extra nail or two in her tippie. The fact was, he cured her by the most sensible plan of reducing irritation, correcting her digestive organs, and giving tonics. I would advise "G. M." to do the same, and write whether it succeeds.—W. H. Exeter.

THE ANDALUSIAN FOWL.

In your number for the 18th of March last, "W. H." asks, "*Is there but one kind of Spanish fowl worth noticing?*" This query is not now heard for the first time; for on various occasions have the pages of THE COTTAGE GARDENER contained references to the distinctive features of the breed known as Spanish, and the varieties that may fairly be included within their list.

These distinctive features, on which most reliance would be placed, are the peculiarly large development of comb and wattles, with not merely the ear-lobe, but also the face more or less white. There are, indeed, other points, both as regards properties, habits, and form, by which this race may be distinguished; but for the present purpose those already mentioned will be sufficient.

Now, the White-faced Black Spanish, the Andalusian, and the White Spanish, possess this common feature in a more or less perfect form. It is, indeed, a bond of union within which even the Minorca may fairly seek admission; but inasmuch as the latter is always different in respect of its face, it remains at the bottom of its class, so far as its fitness for the exhibition-room is concerned, though for all purposes of domestic economy it stands, at least, on a level with its more purely-bred competitors. Since, then, both the fowl commonly called Andalusian and the White Spanish are found to possess this essential characteristic of the Spanish breed, any other claim, as I have said, might also be advanced for them; colour alone is clearly insufficient to

banish them from the Spanish class. It may be thought, and the writer, indeed, is among those who hold the opinion, that by far the most effective combination of colour is found in the White-faced Black specimens, and that the palm of beauty, therefore, belongs to these; but this, surely, should never be employed as a reason to cast an unmerited slur on the others. Had fancy, as might have happened, turned in their direction, the careful selection of parent birds, regardless, it may be said, of cost, which has prevailed with Spanish breeders, would, probably, have as far advanced the position of the Andalusian fowls, as the White-faced Black birds have gained by the enthusiasm of their admirers. This observation, however, is limited to the Andalusians, as the White Spanish has ever appeared to me, with all the usual drawbacks of an "albino," together with the additional disadvantage of the loss of contrast in colour so evidently required by both their comb and face. Here I am evidently at issue with "W. H." But this brings me to his second inquiry, referring to the "*essentials and merits of the Andalusians.*"

Now, if, as I believe, this bird belongs to the Spanish race, it is evident that the main features of this family must be well developed in specimens destined for exhibition. There will be required, therefore, the full proportions of comb and wattle, the white face and ear-lobe, the stately carriage and the large frame of the White-faced Black birds. In respect of colour, it may not be too much to limit it to blue, and its closely-allied tints from the shades of grey to the intense purple-black of the cock's hackle and tail, with the legs and feet a dark slate. The same precise accuracy of description, it should be remembered, cannot be looked for in fowls like those now under consideration, as where each detail of points and excellence has been, as in other more popular breeds, the oft-discussed question of many a past year. As well might it be demanded, that the florist should at once define the most desirable features on a flower on which his experiments were yet in their earliest stage, as would justly be expected in the case of an Auricula, or Tulip. It may be granted that something is already known and recognized as what best becomes the Andalusians, and the remarks that I have made regarding its proper features are identical with those put forth in the "Poultry Book" (page 3) some two years since, and in which it seems there is little, if anything, that would require correction from what has been subsequently learnt.

I observe, that I have omitted any allusion to the "*yellowish feathers on the wings.*" My opinion is strongly adverse to their propriety; and they seem no less objectionable in "*Blue*" than they undoubtedly would be in the "*Black*" Spanish. Such feathers, it is true, are sometimes not found fault with in the Silver-pencilled Hamburgs; but, I believe, a large majority of voices would pronounce for their exclusion even in that case.

Judges are, indeed, responsible for much; but many of the heavy burdens that are apt to be laid on their's might more fitly be borne by other shoulders. At the smaller local shows, for instance, a judge is frequently disposed to pass over many a pen where mediocrity merely is attained; and his reasons for so doing have no less reference to the general interest of the exhibition, than to the individual instruction of the exhibitor. But were this rule strictly carried out (as it ever ought to be where positive defects are visible), many, very many, cases would constantly occur where neither prize nor commendation would appear; and an assent frequently, indeed universally, given to the wishes of committees, induces rewards to pens that would be much more and beneficially left unnoticed. It is not, therefore, to be inferred, that because a prize may decorate a certain pen, that its occupants are, on all points, specimens for the imitation of the breeder. And again, it may be useful to remember, that many a pen may be disqualified for faults in one or more of its inmates, which may yet contain better individual specimens than those to which the honours have been accorded. However trite this observation, the experience of each succeeding day shows the necessity for its repetition.

If I have cause to differ from "W. H." in some particulars of his communication, I heartily concur with him in regarding the "*Andalusian*" as both a handsome and useful member of the poultry-yard. It is, indeed, with a

view to some more generally-recognized standard of what should be recognized in their case that I am now induced to trouble you with my own opinions on the subject.—W.

THE HAMBURGH FOWL.

It is now nearly four years since I first protested in the pages of *THE COTTAGE GARDENER* against the use of the name of *Hamburgh* as applied to *Bolton Greys* and *Bays*, or *Dutch every-day layers*; and although I have had to maintain the argument unassisted so long, I am pleased to find that two other correspondents have now taken up the subject, and I confidently hope to see our poultry classed in a more scientific, or, at least, natural manner, with a correct nomenclature, and that the errors and abuses that from time to time have crept in will be reformed, and that the committees of poultry exhibitions will see the desirability of such measures, and will follow the advance of our age of improvement by using only such names as are correct, and giving honour where it is due, by placing that variety at the head of each breed which has the greatest claim to originality and purity of race.

Your correspondent "W. C.," of March 25th, seems to have a strange objection to being corrected, and he argues, that being wrong, it is best to remain so; setting him right, therefore, would only make him worse. He, too, makes a great mistake in supposing the hen-feathered *Yorkshire Pheasant* fowls to be crossed with the *Sebrights*. On the contrary, it so happens that we have testimony to the *Sebrights* having been bred from them; and also as to hen-feathered breeds being found among the *Game* and *Malays*. Will "W. C." also deduce them from the *Sebright*?

As to the correct application of the name *Hamburgh*, see E. Albin's "Natural History of Birds," Vol. 3, 1736, where he figures a cock of a peculiar breed, which is brought from *Hamburgh* by our merchants, with a short top-knot, a decided beard, and actual whiskers. Also, Dr. J. M. Bechstein, in his "Natural History of Germany," Vol. 3, 1793, gives the following description of the *Hamburgh* cock.

"Der Hamburgische Hahn, Le Coq de Hambourg, which is also known by the name of *Velvet-breeches*, because his thighs and stomach appear as if clothed in black velvet. His beak is pointed, the iris yellow, and round the eyes a circle of brown feathers, from which stands erect a tuft of black feathers, which cover the ears. Behind the comb, and under the gills, stand similar feathers, and on the breast, broad, round, black spots; legs and feet lead-coloured down to the yellow soles of the feet. He has a proud, majestic carriage, and is known in all the towns of Germany; nevertheless, nowhere so fine as in lower Saxony. He is liked for the English cock fighting."

This combed and crested *Hamburgh* fowl must not be confused with the true-bearded crested fowl which the Doctor also describes.—B. P. BRENT.

OUR LETTER BOX.

SOFTENING BIRDS' SKINS.—"In answer to F. G. H., fill a basin half full of damp sand, upon which lay a piece of clean blotting-paper doubled three or four times, then lay the Humming-bird upon it; next, a little more blotting-paper, and cover the whole with a damp cloth until they are soft enough. I generally roll large birds in a damp cloth until they are soft.—ANOTHER SUBSCRIBER."

GREY SPANISH RABBIT.—An Old Subscriber, who asks where to find the above, can obtain them by application to J. Young, Hill, Southampton.

HEN CANARY (A Constant Reader).—You have not described the symptoms of the hen Canary's illness with sufficient minuteness to enable us to guess at her disease. If she has experienced difficulty in laying, it is probable she will not lay again this season, or not directly. If so, and she continues on the nest, it will be advisable to replace those eggs she has already laid, on which she will, most likely, sit. The cock, in that case, may be removed, and put up with another hen. Soft food should be given to the birds from the time they are put together till breeding is over. A little moist sugar is good (mixed in the soft food) to assist the hen in laying; and a lump of old mortar, with a very little salt in it, is also very useful placed in the cage for the birds to peck at. The squeaking mentioned by our correspondent is, probably, the call or chatter of the hen to her mate. If through weakness she was unable to lay, the squeezing of the body may have broken the egg, and though the

contents may have passed, probably the shell or skin remains, which may be long before it passes; and though death may not ensue, it will, in all probability, prevent her breeding for some time.—B. P. B.

GIZZARD-FALLEN.—"I have a Poland hen which appears to me to be gizzard-fallen. Can you inform me if she will lay whilst in that state? She appears very healthy and very rosy. I am much afraid she is too old to cure, being three years old.—GEO. RAY."

[We are afraid there is no cure; but the hen will lay as well as ever. We have such birds laying now.]

KEEPING WHITE FOWLS IN A TOWN.—BASKET FOR POULTRY.—"What is the best way of keeping white poultry clean? The cock, in particular, always looks grimy, more especially in the fluffy feathers about the tail. Would this disqualify him from gaining a prize?"

"Also, I should be glad to know what is the best sort of basket for sending poultry to the shows, and where such can be procured?—ALBUS."

[White fowls should be kept away from dust-heaps, and have a good grass run. Rain cleanses their plumage; and some of the dirt of which you complain may be the natural result of many weeks' drought. They may, at any time, be washed with soap and water, used with a sponge on the outer feather, and then put before a fire in a basket, with some hay or soft straw.]

A basket to convey fowls to an exhibition should be three feet high, from eighteen to twenty-four inches in diameter, according to the size of the fowls, round, and closed everywhere except at the top, which should be covered with canvass.]

NEWCASTLE POULTRY SHOW.—A Subscriber says—"In Spanish chickens, you only report a first-prize in the *Golden-spangled* and *Silver-spangled Hamburghs* the same. I may say that Mr. Dixon, of Bradford, took both first and second in those three classes."

LONDON MARKETS.—APRIL 14TH.

COVENT GARDEN.

A fair amount of *Fruit* and *Vegetables* for the season has been supplied during the week, and a trifling advance in the prices of the best description of forced *Vegetables* and *Fruits* realized—*Asparagus* is now making 10s. to 12s. per hundred, and *Sea-kale* from 3s. to 4s. per punnet. *Potatoes* still come to hand in large quantities. We have also received a parcel of new ones from Spain, which make 3s. to 5s. per dozen pounds, not so good a sample as the first received last year, and they appear tainted with disease. *Cornish Broccoli* has somewhat fallen off. With the last arrivals we have had some good natural *Asparagus*.

FRUIT.

Apples, kiteben, per bushel.....	3s. to 6s	Parsnips, per doz.....	6d. to 9d.
" dessert	6s. ,, 10s.	Beet, per doz.....	1s. to 1s. 6d.
Pears, per dozen	1s. ,, 3s.	Potatoes, per cwt. ..	3s. ,, 6s.
Pine-apples, per lb.	8s. ,, 12s.	Onions, young, ditto..	1d. ,, 2d.
Foreign Grapes, per lb. 2s. ,, 3s.		Turnips, per bunch ..	.. 3d.
Hothouse ditto, ditto 15s. ,, 30s.		Leeks, per bunch	2d. ,, 3d.
Strawberries, per oz.	2s. ,, 3s.	Garlic, per lb.	6d. ,, 8d.
Foreign Melons, each ..	2s. ,, 4s.	Horseradish, per bundle.....	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. ,, 10s.	Shallots, per lb.	6d. ,, 1s.
Seville Oranges, do.	6s. ,, 12s.	Lettuce, Cos, each	6d. to 8d.
Lemons 6s. ,, 12s.		" Cabbage per doz. 2d. ,, 3d.	
Almonds, per lb.	2s. ,, —	Endive, per score ..	1s. 6d. ,, 2s.
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Celery, per bunch ..	9d. ,, 1s. 6d.
" Cobs, ditto ..	60s. ,, 70s.	Radishes, Turnip, per dozen bunches	6d.
" Barcelona, per bushel.....	20s. ,, 22s.	Water Cresses, ditto ..	6d. ,, 9d.
Nuts, Brazil, ditto..	12s. ,, 14s.	Small Salad, per punnet.....	2d. ,, 3d.
Walnuts, per 1000 ..	9s. ,, 12s.	Artichokes, per lb.	2d.
Chestnuts, per bushel 15s. ,, 24s.		Asparagus, per bundle	5s. ,, 8s.

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.	Cucumbers, each	1s. ,, 3s.
" Red, per doz.	2s. ,, 4s.	Mushrooms, per pot	1s. 6d. ,, 2s.
Cauliflowers, per doz.	4s. ,, 6s.	HERBS.	
Brocoli per bble	1s. ,, 2s.	Basil, per bunch	4d. ,, 6d.
Savoy	1s. ,, 2s.	Marjoram, per bunch	4d. ,, 6d.
Greens, per doz. bnch.	4s. ,, 6s.	Fennel, per bunch	2d. ,, 3d.
Spinach, persieve	— ,, 4s.	Savory, per bunch	2d. ,, 3d.
French Beans, per		Thyme, per bunch	2d. ,, 3d.
hundred	3s. ,, 4s.	Parsley, per bunch	2d. ,, 3d.
Carrots, per bunch	4d. ,, 6d.	Mint, per bunch	2d. ,, 4d.
		Green Mint	6d. ,, 8d.

POULTRY.

Good poultry continues scarce, but indications are not wanting of a better supply being at hand. The season, on the whole, has not been unfavourable for rearing chickens, and we think we may look forward to a more satisfactory year than that of 1856.

Large Fowls .. 7s. to 7s. 6d. each.		Teal	0s. 0d. to 0s. 0d. each.
Smaller do. 5s. 0d. to 5s. 6d. ,,		Leverets ..	4s. 6d. to 5s. 6d. ,,
Chickens 4s. 0d. to 5s. ,,		Pigeons	10d. to 1s. ,,
Goslings..... 8s. 0d. to 9s. ,,		Rabbit.....	1s. 6d. to 1s. 6d. ,,
Ducklings 4s. 0d. to 5s. ,,		Wild Ditto ..	10d. to 1s. 0d. ,,
Guinea Fowl 4s. 0d. to 0s. 0d. ,,		Wild Ducks 0s. 0d. to 0s. 0d. ,,	
Plover's Eggs, in bulk.....	5s.		

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WEEKLY CALENDAR.

D M	D W	APRIL 22—28, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
22	Tu	Staphylinus œneoccephalus.	30.473—30.327	52—28	E.	—	51 a 4	6 a 7	10 7	17	1 37	113
23	W	Staphylinus tristis.	30.503—30.422	60—22	N.E.	—	49	8	11 23	18	1 49	114
24	Th	Staphylinus picipennis.	30.321—30.174	69—40	N.	—	47	9	morn.	19	2 0	115
25	F	Sr. MARK. Pas. AL. B. 1843.	30.161—30.134	51—27	N.E.	—	45	11	0 33	20	2 11	116
26	S	[Ds. Glo. B. 1776.	30.230—30.212	57—31	N.	—	43	12	1 29	21	2 21	117
27	SUN	ROGATION SUNDAY.	30.222—30.162	60—28	N.	—	41	14	2 11	22	2 31	118
28	M	Staphylinus decorus.	30.091—30.046	57—36	N.E.	—	39	16	2 39	23	2 40	119

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 58.9°, and 37.2°, respectively. The greatest heat, 81°, occurred on the 28th, in 1840; and the lowest cold, 18°, on the 24th, in 1854. During the period 103 days were fine, and on 93 rain fell.

CYSTOPTERIS DENTATA.



THIS is the *Toothed Bladder Fern*, or *Toothed Polypody*, and has been variously described as *Polypodium dentatum*, *Aspidium dentatum*, *Cyathea dentata*, and *Cystea dentata*, while some consider it merely a variety of *Cystopteris fragilis*. Like *C. angustata*, we consider it sufficiently distinct to be retained as a species.

Root tufted, small; rootlets scattered, rather woolly and black. *Frond*, pale green, generally correctly doubly-leafleted (bipinnate), some of the lower leaflets only, and these in luxuriant specimens, being simply leafleted, or cut so as to be nearly leafleted (pinnate or pinnatifid). The leaflets more or less spread horizontally; nearly alternate. *Leaflets* egg-shaped, or rounded (our drawing scarcely shows them sufficiently so), blunt, abundantly but bluntly toothed; their ribs wavy, their bases not decurrent, though on a winged mid-rib. *Fructification* at the end of the veins, and when numerous, running together, or confluent, so as to seem

like a border round the leaflet. *Stem* about one half its length without leaflets, very slender, smooth, shining, in colour brownish-purple, and rather scaly at the base. From six to nine inches high, and not so brittle as in *C. fragilis*.

This species does not appear to have been noticed by the older botanists, and to have been first discovered by Mr. Dickson, about the year 1784, in clefts of rocks in the highlands of *Scotland*. In *Wales* it has been found at the foot of the walls of Castle Dinas Bran; in Flintshire, at Llangollen; in Denbighshire, on rocks north of the mansion of Trejorwerth, in Anglesea, and on Snowdon. In *England* it has been found between Widdy Bank, and Caldron Snout, in Durham.

It may be cultivated, probably, the same as directed for *C. alpina*.

VINE-BORDERS.

Of all gardening practices during the last forty years, perhaps that I have chosen for present consideration has been the most mystified. Certainly, the last half-dozen years may have proved an exception, inasmuch as people have been retracing their steps, and going back to Nature, finding it to be a step in the right direction. When we come to consider what vineyards are in Vine-growing countries, and observe how little manual matters, comparatively speaking, the Vines are allowed, we may naturally feel astonished at the singular discrepancy in practice between the culture of the Vine under natural conditions, and as a matter of art in Britain. Many a Vine-border in these kingdoms, appertaining to a house some thirty or forty feet in length, has consumed as much of valuable manures and composts, in half-a-dozen years, as would serve, on the average, a Rhenish vineyard of an acre or more.

This I believe to be within the mark; and if so, we are naturally led to consider why such should be the case. That Vines out-of-doors, under the hot suns of Vine-growing countries, are more severely taxed in regard of their perspiring, as compared with their absorbing conditions, I should think might be fairly assumed, especially when we take into consideration the generally drier conditions of atmosphere, as compared with that of Britain. If so, why, then, with a heavier demand on their foliage, should they succeed with so much less food?

To be fair, however, in the statement, it is proper to observe, that a Vine up a hothouse rafter in Britain, bearing annually, if all be well, from twenty to thirty pounds of grapes, has more work of that kind to perform than one like a large Raspberry-bush up a stake, with perhaps a dozen pounds' weight of grapes, and not by any means so much surface of foliage exposed to the light. This statement, I think, opens the case fairly; and let us look a little further into it.

One feature of a most salient character appears to me to present itself in the van of this argument. It is this: Will the Vine succeed well in such a material as a good mellow or free loam, otherwise called "maiden soil," from the circumstance of its having escaped tillage for some time, and thereby being rich in organic materials, but not in exciting manures?

I believe that a jury of really good British gardeners would affirm such to be the case. On the heels of this, however, arises yet another question of importance to all those who do not possess broad acres. Will the Vine succeed in common garden-soils? We all know that Vines do succeed very well in various parts of the kingdom, out-of-doors, at least, in very ordinary soil, such as gardeners long accustomed to the term loam would despise.

Again, I have known an instance or two of Vines thriving tolerably well in the *débris* of an old wall; in fact, growing out of the very bricks; and a similar liberty they take, we are told, in wine-making countries, fastening on the *débris* of rocks and other disintegrations. I have also known the Black Hamburgh thrive to admiration entirely in old tan, in what had been a Pine-house, the pit still retaining the original plunging material of tau, which had, of course, become almost black mould.

It must be admitted, that with all these facts before us, the most experienced in gardening affairs cannot but feel a slight degree of wonderment, and naturally approaches the subject with measured steps. However, a little reflection, and a desire to place the subject in as simple a light as possible, and not to be misled by collateral considerations of a trivial character, will soon show that it is not alone in this soil or that, neither on the amount of manurial matters alone, that the question hinges. Whatever the compost or soil be, there can be no question that its mode of receiving moisture and of parting with it, more determine the fate of the Vines than the previous considerations.

The free admission of the air has ever been deemed a thing of the highest import; but I must confess that, for one, I have been exceedingly astounded at the reported success of our concrete men; and, had it not been for the well-earned reputation of some, I should have had doubts of an insuperable character. This part of the question I have as I found it: for my part, I cannot give up my original ideas that the atmosphere ought by no means to be excluded. I much fear, that in such cases the Vines, like some retired little gentlemen, are living on their former gotten wealth; perhaps on the very capital itself.

To sum up the evidence, then, the case may possibly stand thus:—Have you got what is called a good medium loam, rather sandy, and containing much organic matters? Rest assured, then, that you need not invest much capital in the purchase of gross manures; certainly not in the dead carcasses of animals. Have you nothing but a good garden soil, which smells strong of the spade, and which possesses no amount of coherance? Let me advise you, in the absence of more powerful materials, to add what may supply the deficiency, by trying to represent the organic matters the aforesaid loam possesses, such as old linings of hotbeds, half-decayed leaves, old thatch, or something that has once been a land vegetable, and possessed of strong fibre. Other materials might be named, but I fear to tamper with the question, as I merely write for the inexperienced.

I do not wish here to affect to repudiate the idea of a compost when thrown together by experienced persons, whose practice is dictated by something more than mere rule. I believe it possible to add something of much service, but not with the single idea of enriching the compost, but rather for the sounder purpose of

securing a long-enduring texture in the soil. Lime rubbish, especially mortar and plaster from old buildings, charred and burnt materials, these can seldom be wrongly introduced, unless in thoughtless excess. But their presence in a compost, or their amount, should ever be ruled by the texture of the chief body of the soil; they are opener, opposed to cohesion, and to introduce them liberally to a light and stringy soil would be to expose the compost to every extreme vicissitude of drought; and I must really beg of our readers to endeavour to be prepared for every contingency, if possible.

I need scarcely point here to the necessity for the most perfect drainage beneath. All the world now are unanimous as to that; but one thing more I would name, and that is, the immense benefit of surface-dressings of rich manurial and organic matters. This is the best way of forcing the powers of the Vine, when requisite. Here it interferes not with the mechanical texture of the soil, and if Vines were planted on a well-drained bottom, on sound turfy loam of only six inches over the drainage material, there is no doubt that they might be annually decoyed upwards several inches every year by this process; downwards they would scarcely require to go.

R. ERRINGTON.

THE ORDEAL BEAN OF OLD CALABAR, WESTERN AFRICA.—Dr. Christison has communicated to the Royal Society of Edinburgh the following paper:—"In various parts of Western Africa it appears to be the practice to subject to the ordeal by poison persons who come under suspicion of having committed heinous crimes. On the banks of the Gambia river the poison used for the purpose is the bark of the leguminous tree, the *Pithecellobium suarcolens* of MM. Guillemain and Perottet. In the neighbourhood of Sierra Leone it is the *Erythrophloeum guinéense*, which some botanists have considered identical with the former species. On the Congo river, Captain Tuekey found that either this species, or an allied species of the same genus, was in constant use for the same purpose. These barks, when their active constituents are swallowed in the form of infusion, sometimes cause vomiting; and then the accused recovers, and in that case is pronounced innocent. More generally the poison is retained; and then the evidence of guilt is at the same time condemnation and punishment; for death speedily ensues. In the district of Old Calabar, the poison used for the trial by ordeal is a bean, called *Eséré*, which seems to possess extraordinary energy and very peculiar properties. It has been lately made known to the missionaries sent by the United Presbyterian Church in Scotland to the native tribes of Calabar; and to the Rev. Mr. Waddell, one of these gentlemen, the author was chiefly indebted for the materials for his experiments, as well as for information as to its effects on man. According to what the missionaries often saw, this poison is one of great energy, as it sometimes proves fatal in half an hour, and a single bean has proved sufficient to occasion death. None recover who do not vomit it. The greater number perish. On one occasion forty individuals were subjected to trial, when a chief died in suspicious circumstances, and only two recovered. The author found the bean to present generally the characters of a *Dolichos*. It has been grown at his request both by Professor Syme and at the Edinburgh Botanic Garden by Mr. McNab; and it proves to be a perennial leguminous creeper, resembling a *Dolichos*, but it had not then flowered. The seed weighs about forty or fifty grains. It is neither bitter, nor aromatic, nor hot, and differs little in taste from a haricot bean. Alcohol removes its active constituent, in the form of an extractiform matter, amounting to 2·7 per cent. of the seed. The author could not obtain an alkaloid from it by any of the simpler processes for de-

teeting vegetable alkaloids. By experiments on animals, and from observation of its effects on himself, the ordeal bean has a double action on the animal body: it paralyzes the heart's action, and it suspends the power of the will over the muscles, causing paralysis. It is a potent poison, for twelve grains caused severe symptoms in his own person, although the poison was promptly evacuated by vomiting, excited by hot water. The alcoholic extract has the same effect and action with the seed itself."—(*Year Book of Facts*.)

BEDDING GERANIUMS.

(Continued from page 46.)

VARIEGATED GERANIUMS.—The common *Horse-shoe Geranium*, now of many forms, originated from a simple bright scarlet flower, with petals no bigger than those of the *Herb Robert Geranium* of our English groves. It is almost the only one of the scarlet breed of which we possess a semblance of the original, and that semblance is the "old Scarlet Variegated," or the *Zonale marginatum* of old books, and the one which, with *Verbena venosa*, formed the celebrated "shot-silk bed." This variegated form is nearly coeval with the *Horse-shoe Geranium* itself, which was first brought to England in 1710. Many years later it underwent another transformation, and the flowers became crimson instead of scarlet; this crimson is more tender and less vigorous than the original variegated, and is extremely scarce. I never saw but two plants of it, and I possess one of them at this moment, and a number of crosses between it and other equally rare parents. There is a pink flowered form of it, which I saw, last autumn, in the terrace garden in front of the large conservatory at Kew, and there is a lilacy one very like it, which is common enough about Ipswich. I had it to Shrubland Park from Mr. Latter, of Bramford. I want both the pink and the lilacy one for the experimental garden. If I recollect rightly, the lilac one is barren, but I am not sure. These four variegated, with the *Golden Chain*, our only representative of the "Cape Scarlet," or *Inquians*, are the only old kinds of variegated, as far as I know, and I should be very glad to learn more of their history, or if there are, or were, more kinds of them. *Mangle's Variegated* is from a totally different strain, and is a sport from *Heterogamum*, or from one of its earliest seedlings. *Heterogamum* was called "The Pink Kidney-leaf" in my young days. I said "Plain Pink" when writing about it from Shrubland Park. It appears, in a subdued form, in almost every bed of many less variegated, but it is seldom used in beds now, although it makes a very rich mass in the autumn where it does well. The best bed of it I ever saw was in the garden of the late Sir Abraham Hume, not far from the nurseries of Mr. Paul, of Cheshunt. Of all the Geraniums, the flowers of this Plain Pink, or *Pink Kidney-leaf*, or *Heterogamum*, are the best for nosegays which are made flat on the surface. These require a degree of skill not yet attained in Covent Garden Market.

The bride's nosegay at that wedding mentioned in *THE COTTAGE GARDENER* was perfectly flat on the face, or surface, but it cost two guineas, from the first maker in London—a Mr. Davis, I think; but Mr. Gunter could tell, as he provides for all the great weddings in the metropolis, and must know the name of the first bridal nosegay manufacturer in town, and I should like to see that name in our muster-roll; for what would be the use of writing about flower beds, or any beds, without weddings; or who would wed without a nosegay of the first style of fashion?

I have seen *Mangle's Variegated* in seed several times, but have never seen or heard that a seed of it vegetated.

The plain form of it will seed, but will not cross out of its own section. I want a large number of this variegated to try different ways of disposing of it in beds. The *Beauty Supreme Verbena* is said to mix with it, and render it more showy in a bed, on very good authority, but I cannot speak to the fact. A thin crop of *Mignonette* with it, in a bed at the Crystal Palace, last season, looked well; and, like the shot-silk bed, the two plants ought to be so regulated, from time to time, that neither of them get the mastery. *Flower of the Day* seems the greatest favourite of the new variegated kinds; but, without seeing a bed of *Attraction*, I should pronounce it, at least, equally good. The flowers of *Attraction*, and of *Mountain of Light*, and *Silver King*, are a better scarlet than those of *Flower of the Day*. There are other kinds of variegated in the same strain just out, or coming out; but no one can determine the value of a variegated plant for a bed from seeing it in a pot; but if I had them all, side by side on a border, or in a bed, I could soon tell which was good, better, and best; some one must take that pains with them before the question of merit and the degree of merit in each can be decided. *Brilliant*, which looks like a cross from *Zonale* by some plant from the section of *Heterogamum*, is a good-looking pot plant, but is by no means a good bedder for most places; perhaps it would do on poor, chalky land; on ordinary soils it loses much of the white on the leaf, and whole branches turn green, therefore, if you try it in your garden, have it plugged in the pots as they do the *Unique*. I had no opportunity of knowing how far it would seed, cross, or yield pollen; but the habit, or style of growth, is of the very best, and it deserves to be looked after by the cross breeder—and here is your man.

THE IVY-LEAFS, *Lateripes* and *Peltatum* have, each of them, one variegated kind, but I never saw the variegated *Peltatum*. It was figured long ago in Andrews' coloured engravings of Geraniums (1701) simultaneously with the species in the first volume of the "Botanical Magazine." It was eighty-six years after that before the true Ivy-leaf was introduced—the white Ivy-leaf—of which we have no variety yet, although it seeds freely. Sweet was wrong altogether in assigning three varieties to *Lateripes*, or white Ivy-leaf. His second variety, *Zonatum*, is a distinct species, and seeds as much as the white, but does not spread in a bed nearly so well as the white. His *Lateripes roseum* is our dwarf, best bedding Geranium of that race, our pink Ivy-leaf, or Cup-leaf, and of it there is a variegated form, called, by Sweet, *Albo marginatum*. I take it, that the new scarlet Ivy-leaf is a sport from *Roseum*; if it is from *Zonatum*, it is no sport, but a true seedling, and I must be wrong in my conjecture of it as a sport. My friend, whom I quoted at page 2, says, the scarlet Ivy-leaf "comes pink sometimes," which amounts to a certainty, with me, that it cannot be a seedling from *Zonatum*, a purple flower, and the only flower that will seed in this section after the white Ivy-leaf. The pink Ivy-leaf and the variegated form of it are both as barren as the desert, although the male organs appear to be as perfectly developed as those of any member of the family. I could manage forty or fifty plants of each of them. I mean the pink and variegated Ivy-leaf, but not the pink Ivy-leaf *Peltatum*, which is a climber not at all suitable for beds; but I would pay any ordinary sum for *Peltatum variegatum*, which, however, I fear is lost.

I never could force a cross of Ivy-leaves, save one, which, I fear, I shall lose after flowering it two seasons; it is of no use but to a breeder; it is from *Zonatum*, by the pollen of *Lateripes*, but it goes too much after the mother to be good looking; if, among all our readers, any one can tell me of another kind of Ivy-leaf, or of attempts to cross from any of them, I shall be as pleased as I should be with a basket of plants of them.

The white Ivy-leaf is a beautiful pillar plant in a conservatory, or as a climber; the horseshoe Ivy-leaf *Zonatum* is ditto, but with a purplish flower, and a teasing habit of seeding each flower, which, if not picked off as fast as they set, will hinder the growth and flowering, besides making the leaves turn foxy colour. The *Peltatum* is only fit for pillars and for training in-doors, unless you want to cover rock-work with imitation of Ivy. It would be a most valuable kind for Mr. Gunter to dress the wedding desserts during the winter, when good-looking and pliable leaves are scarce.

The pink Ivy-leaf bedder is the best pink flower among all the Geraniums, also the best pink bed in the garden. Verbenas have no flower so pinky; but the plain leaf of *Mangle's Variegated* is a better pink for a nosegay, owing to the stalks being much longer, and the flowers less fleshy and brittle. The *Variegated Ivy-leaf* is the best plant I know to grow in a room where the sun never shines, or not till after six o'clock in the evening in summer. I have seen in that way, old, large plants of it, which I could sell to nine gardeners out of ten as a splendid new seedling. It is not a particularly good bedder however, unless, perhaps, in combination with *Dandy*, *Golden Chain*, and *Baron Hugel*, to form a massive, rich edging.

Lady Plymouth, a diminutive sport from *Graveolens*, or Rose-scented Geranium, is another which comes to the same uses as the last. I have seen it in a north window, in a pot, trained to a flat surface-trellis, when a half-guinea was refused for it, over and over again, and that at a nursery where every leaf would be sold to the first bidder if he came up near the mark.

The *Golden Chain* is another for a north room; but one would need some experience to make a hand at such delicate plants. There is a large edition of *Lady Plymouth*, an excellent edging-plant, with a dwarf, spreading habit, yet strong enough for a bed. I never saw this plant till last summer, when I was taken to look at a whole bed of it; I, therefore, think it must be scarce; but, like my own seedling which I called *Sir William Middleton*, it must get into the trade till the three kingdoms are supplied. No one should lose the chance of a good bedding Geranium, and we have none in this style but itself; the nearest to it would be the *Variegated Prince of Orange*, which is another edging-plant. A bed of it would hardly be "one thing or the other."

To vary the subject, and to have two strings to one's bow, I shall now introduce a new race, an entirely new race of variegated plants, by saying, that I received a "carriage paid" basket, a few days since, full of the most beautifully variegated plants I ever saw. I cannot tell how many varieties there were, but a good florist would make a dozen kinds out of them, at least. They were triple-curled and variegated descents from the true old

SIBERIAN KALE OF MILLER;

the brown Kohl and Feder Kohl, of the Germans; the Chou Frisé and Chou Plume, of the French; but not of the section of Kales to which our old friend *Ragged Jack* belongs. *Ragged Kale* is one of the many names of the Buda Kale; some of these were as white and crisp as curds, and as well fringed as our best Parsley, and then followed every tint to a deep purple, the middle, or blade part of each leaf being transparent; there was no letter or indication whence this had arrived, and I took it the whole were sent for my experimental garden. Variegated Geraniums would not satisfy some people so well; but, on the morrow, I had notice of them from one of the editors as "very beautiful ornamental greens," although there was hardly a green blade among them, "and a new hybrid cabbage," of which there were four specimens, in four stages of growth. I was told, or

almost half ordered, that as I was a man cook, I must boil each of these separate, note the time it took to "do" them, and each of them, to partake of them on an empty stomach, to note the effect under the gastric juice, and to give a true and particular account of them, for which I should be responsible as long as I was alive, for the use and guidance of all whom the subject might concern. There was no denying such a subject, and nothing for it but "Polly put the kettle on." The right way to boil all kinds of Greens, Sprouts, and Cabbages, is to wash them first in water with a little salt in it, to rinse them then in clean water, and to have the pot on the boil when the Greens are put in, to use double the quantity of water that would nearly float them, and to put a piece of soda in it, say the size of a cob-nut to a gallon; then, with an egg-glass, or a watch in hand, to fix on the *very moment* on which the midribs turn soft, then out with them and drain the water off *while yet on the boil*, and Soyer himself could not do the thing more scientifically. In six minutes they were done most beautifully, and each kind boiled with its own tint and shades. They were as mild to the taste as Sea-kale, and as easy of digestion; but their appearance at the table was against them, not so much, however, as that of the purple Scotch-kale, the hardiest of the race. The midribs, if boiled separately, would be the best substitute for Sea-kale. The other uses are well set forth in "Melville's" letter, the signature of the person who sent them, and who, if he does not live "up stairs," is, like some more of us, well-acquainted with life *above* stairs. Then his new hybrid Cabbage is a most valuable addition to spring vegetables, coming in long before the earliest, and quite as tender and delicate as the best sugar-loaf Cabbage. This does not Cabbage so hard as the old kinds, but when ready for table is as white as Cauliflower, and has no resemblance in appearance to any form of Cabbage we possess. I am quite ready to take the responsibility of saying that this is one of the most valuable additions to our stock of spring vegetables. The rest may be gathered from "Melville's" letter.

D. BEATON.

"[Being a Subscriber of your excellent paper, I take the liberty to send you a sample of my new new Triple-curled, Variegated Garnishing Greens for your opinion. I should have sent them sooner, for they are past their best, and running to seed. They do for all sorts of garnishing, such as dressing the large Epergne in winter, mixed with evergreens, &c.; the small leaves do very well to put round small bouquets of flowers, such as Violets, &c., in winter, when flowers are scarce, as the leaves are quite transparent in the candle. I have frequently seen the small leaves tied on wire, the colours alternately mixed, and a garland formed to make a head-dress for a ball, &c. I am sorry to trouble you with two things at once; but, sending a hamper, I thought I would send both under one carriage. The Cabbage is a variety I have raised from the heading Scotch Green impregnated with Mc. Evans' Dwarf Cabbage. The Borecole, or Green, is the *parent*, its greatest property being its hardness and durability in keeping fit for use till spring Cabbages come in. It does not burst like Savoy, or Cabbages, when *headed*, but keeps without bursting longer than any Cabbage tribe *grown*. It should be sown about April, to keep till the spring or early end of summer Cabbages come in. I have sent heads in all their stages; a blanched head, others in different *stages* of growth, to show their appearance. Your opinion of these enumerated in THE COTTAGE GARDENER will exceedingly oblige your humble servant—MELVILLE.]"

THE AURICULA.

Who has not admired the *Dusty Millers* that held such honourable place in the cottage gardens of old? Few might possess the properties that will alone satisfy the florist, but they gave delight, associated with sensibility

and elevated refinement, to many a youth and maiden, who, in altered scenes, never wished to forget the impressions and aspirations formed by early contact with, and love for, the beautiful. Even those who could boast of no white powdered Auricula, could find charms and interest in the velvet petals, and rich, deep colour of the *Self*, and the more mottled and shaded ground colours of the *Alpine*. Rarities and novelties, more gaudy and attractive to less refined tastes, have next to banished these beauties from our princely gardens. Exceptions there are; but, as a rule, the best florists' Auriculas are to be found among tradesmen, and mechanics, and manufacturing operatives; and the best collections of the more common *Dusty Millers*, and their allied *Selves* and *Alpines*, are to be found in the gardens of mechanics and cottagers, where I hope they may long find a home. Many with limited means may wish to cultivate these beauties, and, therefore, in this article, I will keep as much as possible to simplicities.

The Auricula is a native of the mountains of Switzerland, the hills of Syria, and the ranges of the Caucasus. In its wild state the colours are yellow, purple, and variegated. No such thing as a beautiful florists' flower has ever been found in its wild state. To the florists' skill we owe entirely the fine forms and the rich variety of colouring. The natural positions of the plant furnish the key-note to its successful culture. True, just as in animals, the more improved the breed, the more sensitive to injury, and the greater the necessary care to prevent that injury and consequent deterioration, or ruin. The pampered and petted florists' Auricula would not stand long the treatment given to the hardier Alpine in the border, and yet the basis of our management of both must be founded on the same principle. The not attending to this is the reason why we so often fail to grow, in our comparatively sheltered valleys, the plants that stand uninjured on the cold mountain sides, with the snow alternately as a neighbour and a friendly bed blanket. In such circumstances, the tiny plants know but little of the dry, frosty east winds that rob our plants of their juices in severe winters, or of the keen frost that penetrates our earth to a considerable distance when there is no protection over it. First, the scanty herbage around them, and then the covering of snow, secures the little beauties from such injuries. Under our care, again, such plants may be exposed to stagnant moisture at one time, and great dryness at another, with a powerful, unclouded sun beating upon them, and drying and shrivelling their leaves. In their natural habitats, such little Alpines can scarcely ever know anything of stagnant moisture. As the sun gains power, the snow around them, and far above them, will, in its melting, afford a sufficiency of moisture, while the same heat that brings such little beauties into active growth, will also encourage the growth of many things a little larger around them, and thus a kind of flickering shade be given from the direct rays of the sun in summer. Such little matters attended to, and many with limited space might succeed in growing many Alpines, besides Auriculas, that are now seldom met with in collections.

From these considerations, as well as the extra care required for the improved varieties of the florist, it will be evident that he will require shelter and shade for his favourites, and that even border flowers, in addition to being supplied with a sufficiency of moisture in summer, and not being covered over with other grosser-growing denizens of the border, would enjoy a degree of shade in summer, such as moving them from a position exposed to the sun to one more shaded, or a northern aspect. Many suitable plans for this purpose, in the shape of stages, and by vernatories or spring residences, have been devised by the florists, and all suitable enough where expense is no object. In general, a common

garden-frame, moveable at pleasure, and a few hand-lights, will be amply sufficient for all purposes. Even when these were wanting, I have known glazed calico used with good effect; and, in a few cases, where enthusiastic energy took the place of conveniences, a wooden box, with a moveable wooden lid, has done wonders. In order to prevent confusion, our remarks will chiefly pre-suppose, that a garden-frame and a hand-light or two are to be appropriated to this purpose. Those with different conveniences must regulate their practice accordingly.

Modes and Times of Propagation.—By suckers and offsets from established plants, and by seed for fresh varieties. The *suckers* are generally removed at potting time, because the plants are thus dressed at once. Those rooted should be placed by themselves. All offsets should be taken from florists' flowers, whether rooted or not, so as to leave one head to the stem. Those rooted should be placed in small pots in proportion to their size, or two and three in a pot. Those not rooted should be placed, two or three inches apart, round the sides of a pot, in rich, sandy soil, and kept under a hand-light, in a shady place, until they are rooted, when, according to strength, they may be potted separately in small pots; or, it will generally be preferable to have them in store pots all the winter, and shift them early in spring.

By Seed.—In cases of nicety, the stamens should be removed from the mother flower before they open, so as to discharge the farina, and the *pistil* be fertilized by farina from the desired father. When this is done, the flowers should be kept dry, under glass, but with plenty of air. When the flower fades, and the seed-pod is swelling, more air and exposure may be given. Cut off the seed-vessels as they become brown, about the beginning of July, and place them in a dry, sunny place, on a sheet of paper, until they open. When this takes place, the seeds may be sown at once, on rich, light soil, under a hand-light, or, better still, in a box that may be protected, and easily moved under cover in winter. For seed from which good flowers may be expected, I would prefer sowing in February or March; as, in that case, the plants are a good size before they encounter the first winter. The seed, in either case, should not be covered more, hardly so much, as the eighth of an inch. Many of the most valuable seeds, because generally the smallest, are rotted and killed by too much covering. On this account, though many succeed by sowing in spring under a hand-light, or on a sheltered border, I would prefer sowing in pots, and placing them plunged in a gentle, sweet hotbed, and covering each pot with a square of glass, and shading until the seedlings appeared, when light and air must be gradually given. This would secure a more uniform vegetating of the seed. The preference in selecting the plants, should, as a general rule, be given to the weakest, but healthy. As soon as they can be easily handled, they should be pricked out into a bed, about five inches apart, supplied with a frame, so as to be wintered there, and many will show as much bloom as will show what they are the following year; when the good ones may be potted and placed with the florists' flowers, and the others transferred to the border.

Soil.—With the exception of the snow-water trickling through decaying vegetation and decomposed vegetable matter, the Auricula would receive little gross feeding upon its alpine heights. True, were we to imitate nature in this respect, we would see few Auriculas with foliage as large as little cabbages. But while culture must have its manual aids, it is very easy to overdo the matter. The succulent Cabbage, stuffed with rank manure, is about as wholesome and good-flavoured as that which is to be found on the sea-shore. The mixture of the mystical quackery, and the gorging a

hill-side plant with every conceivable and unmentionable excrement and ordure, has alike deterred from its cultivation, and ruined, by canker and disease, many a nice collection. A richish material must be used, but the sweeter, the simpler, and the better-decomposed it is, the greater the success. Here is one compost. Take one part of the two-year-old dry, rotted cow-dung, collected from the pastures in summer, when it is dry and caky; place it in a dry shed, so that the wind whistles through it, and thus banishes all the worms; in the time specified it will be as flaky and light as gossamer almost, and as sweet as a nut. Add to this, two parts of rotted turf, from which all worms have been driven, and half a part of silver-sand, or other clean sand, in which iron is not present. If the cow-dung has come from stall-fed animals, a less quantity will be sufficient. Very rotten hotbed dung will answer equally well, if well dried and sweetened before use. The same may be said of leaf-mould. Although sounding a little of the quackery referred to, there is little leaf-mould that will heat; that sometimes found in the decayed trunks of willow trees; its very age makes it sweet. If no rotten turf is to be had, get a little sweet, mellow loam from a road-side. Worms cause great injury to Auriculas, and it is a good plan to heat all the materials used, and then let them sweeten well afterwards. You will find it safest rather to under do your composts in richness. The roots will thus be healthy and vigorous, and you may communicate strength with manure-waterings; these, however, must consist of old cow-dung, in solution; or, if at all fresh, it must be mixed a long time before being used. All strong manures, and especially if of a hot nature, are dangerous, whether in the compost or as manure-waterings.

Time and Mode of Potting.—If a plant has defective drainage, or is sickly, I would pot, or examine it at any time. The best time for a general potting is just when the plants have had a short rest to recruit themselves after flowering. Those with seed left to ripen must be waited longer for, and that will be apt to distress them a little. Those with valuable offsets, not yet begun to root, may be waited for, a week or two. July may be considered a good medium time, if the plants are healthy and growing well. If potted much earlier there is a danger of the flower-stems showing early in winter; if much later, the roots will not have occupied the main soil sufficiently before winter. In turning the plants out of the pots, all the offsets, as already mentioned, should be removed. Most of the soil may be crumbled and shaken away. The main stem-root in old plants may be getting too long, or the base may be getting black and decayed; in either case, shorten back to where it is sound, and daub the part cut with charcoal dust, and also any cuts of offsets from the stem. Shorten, but sparingly, the longest fibres, if fresh. Remove all in the least sickly or decayed. In draining the pot, a semi-circular eap over the hole would be useful to exclude worms; instead of that, place the draining crock with its curved side over the hole. If there is from an inch to an-inch-and-a-half of drainage above, properly placed, the smallest uppermost, and covered with a sprinkling of moss, there will be no clogging of the drainage. Place some compost in the pot, hold the plant in it, and regulate the roots all over the space nicely, and shake the soil among them, settling it by striking the pot on the bench, and then firming the soil a little with the fingers, and especially near the collar of the plant. Place the pots on a raised platform, on rough coal-ashes, beneath the lights of the frame, set on a north-east aspect, water with a fine rose, and keep them rather close, and shaded in the morning, for a fortnight or three weeks.

Summer Treatment.—As soon as fresh growth is proceeding the shading may be dispensed with. More air

may be given at first, and then the sashes be taken off completely; the frame elevated on bricks, that the air may have free access all round the pots; let waterings be duly given; the surface soil frequently stirred, decayed leaves removed, and slugs and worms hunted out. If a layer of salt, or quick-lime, was placed below the rough ashes, this office of hunting would be merely a sinecure. If the position is at all exposed to the mid-day or afternoon sun, shading will be required in the hottest hours. Mild, warm rains will be beneficial, but heavy rains from thunderstorms, &c., must be guarded against, either by canvass or glass.

Winter Treatment.—From the first to the middle of October is a good time for removing the plants to their winter quarters. We suppose that the frame is again the Auricula house. The position on which it is to stand should be raised six or twelve inches above the ground level, and by grouting, or other means, the moisture be prevented rising from below, as well as worms, &c. The ground should slope out from it all round, and the plants be set on rough coal-ashes, the frame facing the south. The frame should be set on bricks, that air may pass below as well as above, the sashes being left off in all fine weather. Boards, or other means, must be ready to shut off the air at the bottom of the frames in frosty weather, and during frost at all severe the sashes must also be shut. No rain should fall on the plants in winter, and, if the plants become dry, the foliage should not be wet, as, if long wet, mildew will be sure to seize them. Nothing in the shape of a yellow leaf should be twice seen. In dull, mild weather, all the air possible should be given, back and front, without taking the glasses off, if the atmosphere is at all foggy. Dull, foggy weather, in December and January, are great enemies to contend with. Choosing a dry, mild day to remove part of the ashes, and replacing with dry and sweet, will be an advantage. In severe weather, when the temperature inside approaches the freezing point, the plants may be closed up and covered, without injuring them. In very bright days, with cold, frosty winds, it is better to shade instead of giving much air. When the weather is mild, in addition to giving air freely, the surface of the soil should be frequently stirred, and all green slime and moss removed. The pots should stand within six inches of the glass, and those who are not versed in protecting matters would find it safest to plunge the pots in the rough ashes in winter. The roots are more easily injured by a severe frost than the leaves.

Spring Treatment.—In February, choose a fine day to examine the plants, prick up the surface-soil, to throw off as much as you can without injuring the roots, and to refill with dryish rich compost, consisting of equal parts of old, decayed dung, sweet loam, and silver sand, using it in a dryish state, and pressing it firmly against the collar. Take this opportunity to add, or replace, fresh ashes, and thoroughly to clean and white-wash the frame inside with fresh lime. A watering will, before long, be wanted. The plants will require to be covered up at night when at all cold, and to be kept closer during the day in March, that the flower-stems may have no check, and that the pips may be not deformed, or discoloured. What water is given after the end of February must be put carefully on the soil, without touching either the leaves, or, especially, the heart of the plant. As soon as the flowering period approaches, remove the plants individually to a north aspect, under hand-lights, propped up on bricks; or use a frame, and give air, and shelter, and shading, in April, according to the weather. A little manure-water will now be of great advantage in giving size to the flower and strength to the stem. At this artificial stage, sudden changes of the weather to cold must be guarded against by mats, or other protection.

TERMS used in describing an *Auricula*:—*Thrum*, parts of fructification in the tube, or centre of the flower. *Paste*, white circle next to the tube in a florists' flower. *Ground-colour*, circle next to the paste being the distinctive colour of the variety. *Edge*, outer circle or border. *Pip* is a single flower. *Truss*, a number of flowers on a common flower-stalk. It is desirable there should not be less than seven.

Properties of a Good Flower.—The pip should consist of four circles, formed at equal distances round a given point. The first, the *tube*, round, of a yellow colour, the *thrum* rising a little above the eye, or paste. The *paste* pure white, dense, and round. The *ground-colour* should be dense and distinct, perfectly circular next the paste, slightly feathered towards the edge. The *edge* should be distinct in colour, whole, and circular, instead of starry in outline. The whole *pip* should be round, flat, and smooth at the edges. All the pips in the *truss* should show boldly, without overlapping. The *stem* should be strong and the foliage healthy. For full particulars see "Glenny's Properties of Flowers," and THE COTTAGE GARDENERS' DICTIONARY. R. FISH.

ADVICE TO GARDENERS.—THE GARDENERS' BENEVOLENT SOCIETY.

My former papers of friendly advice and encouragement to *young* gardeners seem (from the various letters of thanks that I have received) to have given satisfaction, and, I trust, profit to my young friends. A circumstance, to which I will presently refer, having occurred, I am, in consequence, induced to venture a few words of advice to my professional brethren who are more advanced in life, and have achieved the rank of head-gardeners, and are now holding situations.

The circumstance to which I allude is the reception, a few days ago, of the Report of the Gardeners' Benevolent Institution, with a copy of the rules, list of pensioners, list of presidents, officers, and subscribers.

This Report contains the state of the Society at the close of the last year, 1855.

I have to state, for the information of all gardeners and their foremen, market-gardeners, nurserymen, and seedsmen and their foremen, who may not have seen the Report, and who are not Members of this excellent Institution, that it is instituted for the relief and support of all such gardeners and their widows as may, through unavoidable misfortunes, sickness, or accidents, have been brought to a state of destitution, and, therefore, need in their old age the assistance of their younger and more favoured brethren.

This is true charity, and it is my advice, in this paper, addressed to all gardeners, that they should instantly become Members and Subscribers. The subscription is only a guinea per annum, yet, if every gardener in the United Kingdom were to become subscribers, the means of doing good would be greatly multiplied, and the Committee would have it in their power to increase in proportion the number of Pensioners, and, perhaps, increase the amount of their pensions. I, for one, should be glad to raise that pension from £16 to £20 per annum for the males, and to £16 for females. I am sure the Society would be glad to do this if the funds would allow such an increase.

The present state of the Pension List is as follows:—There are twenty men at £16, and eleven women at £12 per annum. The average age of the former is seventy-six, and of the latter seventy-one, receiving those pensions. These aged, indigent gardeners and their widows are thus placed above want, or the fear of it, for the remainder of their lives. They can live with their children, if they have any, or with some friends, and are allowed, by the rules of the Society, to

have, in addition, an annual income of £20 per annum, but are very properly not allowed to receive parish relief; and no person is eligible to be elected and placed on the pension under sixty years of age, excepting he, or she, is blind, or unable to procure a livelihood in consequence of accident, such as loss of limbs, or paralytic affliction. These are wise and necessary restrictions, which no prudent man can object to. I mention these points to prove that the Society, though earnestly desirous to relieve, as far as is in their power, the really deserving, unfortunate, and indigent gardener; yet they by no means hold out any inducement to impostors, or able-bodied idle men, to expect that relief which they bestow upon the worthy poor and aged man.

I earnestly recommend every gardener, not already a subscriber, to seriously consider the benefits such an institution holds forth to their needy brethren, and, as soon as convenient, to send their names and subscription to the Secretary, Mr. E. R. Cutler, 14, Tavistock Row, Covent Garden; or, if they wish to see the Rules, List of Members, &c., first to write to him for a copy. I am sure he will be most happy to attend to their request.

I urge this on the broad basis of Christian charity, without subscribers expecting or hoping for reward; though I may also mention that every gardener who subscribes fifteen years consecutively has then the privilege, should he need it, of being placed on the list of Pensioners, in preference to persons who may not have subscribed to the funds. The object of this regulation is to give a decided preference to those persons who have been contributing to relieve others.

It may be an inducement to some to join in such a good work when I inform them that not only gardeners subscribe to this truly noble charity, but even Royalty has taken it under its wing. The Queen and Prince Albert patronize it. The good Duke of Devonshire is its President, and many other noblemen support it as Vice-Presidents. There are great numbers also of the gentry subscribe to it, and almost all nurserymen of any note give their time and money to enlarge the funds. So that, my good friends, the gardeners as yet non-subscribers will find themselves in a goodly company, besides great numbers of our own craft.

Example is said to be better than precept. I am proud to say that the proprietors of this Journal subscribe, and all my fellow-contributors are members also, and your humble friend and adviser has supported, as far as laid in his power, this most excellent charity. On this account, I may be allowed to advocate its cause, for I do not advise others to do that which I do not myself.

Some may say, I cannot afford even so small a sum, for I have a large family to support. Surely, it may be thought, a man in such a position may excuse himself; but, my friend, I cannot excuse you. I know a man, a writer for this Journal, who has a family of twelve children, and no great salary, and yet he subscribes. A little self-denial will enable you to go and do likewise. The promise is, "Whoso giveth to the poor lendeth to the Lord, and look what he layeth out, it shall be paid him again." My friend, this a good Pay-master, who never forgets Saturday night. Then, whilst it is in your power, do good. Act upon the Golden Rule, "Do unto all men as you would they should do unto you." Do some good in your day, for a time may come when you will, or may, need help from others; and how can you expect that help if you turn a deaf ear to others whilst you are in health; whereas, by sparing a little to comfort your aged, needy brother, should you in your turn need comfort also, you may reasonably claim it.

If I press upon and earnestly advise a gardener who has a family to support, and probably not too much salary for that purpose; need I press the same duty upon others in better and more favourable circumstances? I

have in, my various journees, frequently met with such men, and when I enquire if they are members of the Gardeners' Benevolent Society, I am sometimes met with various frivolous excuses, such as, "I do not think well of the Society, for scarcely any one is successful at the elections, unless they live near London, and I do not approve of some of the Rules." Some even go so far as to say, "There is a provision by law (meaning the work-house) for the poor;" or, again, some say, "I have never been asked to subscribe." If any gardener now holds such objections, let him fairly and candidly examine the grounds upon which he has formed such objections; let him send to the Secretary and obtain a copy of the last Report, and I will be bound his objections will vanish like the baseless fabric of a vision, and leave not a wreck behind. If he founds his refusal to join in this good work on the ground that he has not been asked, I will strike the prop from under his feet, and tell him, I ask him, once for all—Come over and help us to provide for the sick and the needy. The way is easy; it is a royal road; there only wants the will. A penny postage stamp, and a threepenny post-office order to the amount of twenty-one shillings, enclosed in an envelope, directed to the Secretary will put it in your power to give votes to such as you think most worthy, whether they live in the south, the east, the west, or the north. No one can take from you that power. Then, having taken my advice, try to persuade others to follow your example. Respectfully lay before your employer the Report, and ask him to subscribe, so that he may have votes to give to old needy gardening servants. If this is done all throughout the length and breadth of the empire, I may venture to prophecy that no gardener of good character will ever have to enter the doors of the Union.

I have heard some suggest that the funds of the Society may fail, by the members dying, or by great general distress throughout the nation. To such I reply, that as far as human wisdom can devise, such a sad state of affairs has been provided against by a kind of sinking fund, described in the nineteenth Rule, which says, "That all donations and life subscriptions shall be invested in the names of the Trustees in the three per cent consols, and only the interest, or dividends thereon, and annual subscriptions, be applied for general purposes," by which is meant the payment of pensions and the necessary expenses of the Society. The present amount of this reserve fund is £3,700, from which an annual income of £111 is derived. This reserve fund is, I think, a grand feature in the Society's transactions. It is a surety, that however the subscriptions may fall off, there will be sufficient to keep up the pensions granted till either they die off, or the subscriptions revive again.

I may just state, that at present there is no fear of such a catastrophe. In 1854 the subscriptions amounted to £517; in 1855, to £547; and I do trust and hope that this year a proportionate increase to the funds will be added, especially as there is now every prospect of peace and prosperity.

T. APPLEBY.

A FEW NOTES ON THE ARRANGEMENT OF A KITCHEN-GARDEN.

THERE are few things which have a greater influence on the ultimate success of garden cropping than a due regard to the placing of each crop on the most suitable spot; for not only is a proper change of crops each succeeding year necessary, but there are other points which ought to be attended to. Certain important crops ought to be treated to the best places, while others, for which there is not so much demand, but which cannot

be done without, may have a less-favoured place allotted to them. To the latter class belong most of the *Sweet Herbs*, *Horseradish*, *Jerusalem Artichokes*, and some other things; while foremost among the favoured ones are *Celery*, *Peas*, *Dwarf Kidney Beans*, *Potatoes*, and the whole host of the *Cabbage* and *Cauliflower* family. All these deserve a better place than to be huddled together under fruit or other trees. Therefore, in arranging the garden for the season, care must be taken to allot to each of these, and other indispensable articles, the best situations that can be given, and at the same time to take care and judiciously change the crops in such a way, that the same may not be on the ground again oftener than once in three years, neither must any two of the same family succeed each other; for as the whole of the *Cabbage* family may very reasonably be supposed to live on the same substances, it follows, that when one crop immediately succeeds another, the ground must be too much drained of the food necessary to support such crops when the first one is removed, to expect the second to succeed. Besides, insects deposit their eggs in the soil, and their larva is there ready to prey on the succeeding crop, if of the same Natural Order. It is true, that a rich manuring may supply the necessary food to the plants, and is always advisable after having exhausting crops; still, when a changed one is contemplated, it is reasonable to suppose that the utility of the last manuring is not done away with entirely, so that it will, to a certain extent, assist in supporting the other.

I have always found that *Peas*, *Potatoes*, *Celery*, or *Dwarf Kidney Beans*, do better after the green crops than these crops after each other. Coarse-growing things, as *Horseradish*, *Jerusalem Artichokes*, *Sea-kale*, and some others, had better be placed in some less conspicuous place than the ordinary kitchen-garden; by which is meant, that these crops ought to be outside of the department which is much in view, for we all know that in small gardens most things must be in view, and many kitchen-garden crops have an interesting appearance when well managed; but the above-mentioned are not so easily kept so at all times. It is true, *Sea-kale* is not unsightly except in winter, when it is often, of necessity, covered up for a long period together with littery dung, or other forcing materials, to the no small detriment of adjacent crops in an ordinary point of view. *Asparagus*, however, may be allowed a place in the principal garden, as its appearance is graceful rather than otherwise. In fact, I have often wished that the plant was less common, when its fine, feathery appearance would gain it many friends. A nice green sprig of the tops of *Asparagus* is no bad accompaniment to a bouquet of flowers. And the plot of ground it occupies need not at any time be unsightly.

In the laying out of new gardens, it is not unusual to place the permanent crops in such a manner as to divide the ground. For instance, a row of *Globe Artichokes* makes a good division between quarters of plain tillage ground. Bush-fruits are often used that way, being, perhaps, better still. *Strawberries* ought to be planted on some fully exposed place, but not on too dry a situation; and in rural districts it would be well to have them all together, in order to protect them with nets from birds. *Apple-trees* had better be dispensed with altogether in small gardens, except in the shape of espalier, or other mode of training not likely to reach very high; and unless there be an anxious wish for large fruits, it would be better to exclude large standard trees from tillage gardens entirely, bush-fruits and wall-trees being alone permitted.

Having arranged the position of walks with the various lines of permanent objects, there are several small crops which make good temporary edgings, amongst the best of which is *Parsley*, of which the best curled ought only to be sown. The small bulbous

plant called *Cirus* is also a neat, trim edging of a useful kind, but the plant has ceased to be much used. *Double Chamomile* spreads so wide in summer as to become objectionable, as likewise do all the ordinary herbs in general use, so that it would be well to limit the use of edgings of all these things to those inner margins where a permanent edging is not called for; and to those who may be anxious to try these things, I may mention, that *Winter Savory*, *Hyssop*, *Sage*, *Pennyroyal*, *Parsley*, *Strawberries*, *Chamomile*, and several other things, are used occasionally for such purposes; and, not unusually, rows of small salading form, for the time being, a pretty, effective edging.

When a garden consists of both light and heavy soils, it would be prudent to crop them accordingly. *Broad Beans*, *Strawberries*, *Black Currants*, *Raspberries*, and *Lettuce* (in summer), all like a cool soil that is tolerably deep. On the other hand, *Cauliflowers* and *Lettuce* to stand the winter. *Wall Fruit trees* and *Potatoes* prefer a light soil, whilst the intermediate soil is best for the bulk of other crops as well as the above, in general cases. In fact, seasons and situations have as much influence on the well-being of the crop as the nature of the soil, and most plants of the *Cabbage* section like a rich, deeply-cultivated soil; and as most vegetables that are gross feeders are better in quality when grown luxuriantly, it would be well to give them plenty of such assistance, while other crops, as *Potatoes*, being sometimes injured by its too liberal application, it would be well to think of them also at the proper time.

One thing must not be forgotten, if a good, healthy growth and good success is expected; namely, that it is necessary to trench the ground pretty deep, for even plants of apparently humble growth send their shoots much deeper into the earth than is generally supposed. I noticed a bed of *Onions* which we had here last year had penetrated more than two feet deep. The crop was certainly a good one, and the plants stood thicker than usual on the ground. But in all hot seasons, plants in search of moisture invariably strike their roots downwards; and if their course that way be not impeded by some hard substance, and if the subsoil be of a wholesome kind, there is every likelihood of the plant not suffering from the dry weather for some time; but if a hard-bound subsoil arrest the downward progress of the roots, they must inevitably suffer; and as the object of nature is to effect its own offices in re-production, the plants so suffering will be sure to hasten to a premature ripeness, the seed will be formed before the plant is of any use as a vegetable, and the purposes of the cultivator will be frustrated.

One purpose which a light soil is eminently qualified for, is the germination of seeds in spring, there being seldom any lack of moisture at that time; such a soil, too, is less liable to the ravages of slugs and other depredators than most others. Seeds of various *Brocoli*, *Savoy*s, *Lettuce*, and other things intended to be planted out, had better be raised in a light soil, and planted out in due time;—in a wet or cold season, or cold climate also, it is easy to see the utility of such a soil; while, in preserving the plants that are destined to live over the winter, a light soil is, without exception, the best that can be had for the purpose. As circumstances often determine the situation of the garden soil, it is right here to mention a very excellent old maxim, that "lime loosens heavy soils and binds light ones;" the dung cart may be very valuable, but this other assistant is not half so much used as it ought to be; and as the cost is not a serious affair in gardens where the well-being of every thing is concerned, I would strongly advise this old "renovator" to be again restored to the position it used to occupy in cultural affairs, being assured that its utility is oftener under-rated than that of many of its more fashionable compeers, and whether it be an old

garden or a new one, its application is seldom without its uses.
J. ROBSON.

THE BEST FANCY DAHLIAS.

(Continued from page 34.)

ALLIANCE (Perry's), dark stripe, very constant; fine shape. 4 ft.

AMPHION (Cailloux), fawn, striped with crimson; ge, fine flower. 4 ft.

BUTTERFLY (Salter's), sulphur, striped rose and red; well up in the centre; very constant. 3 ft.

BARON ALDERSON (Perry's), orange, tip white, very large, and, when in trim, one of the very best. 3 ft.

COMET (Keynes'), fawn, striped crimson; requires cutting out; very fine centre; and very constant. 3 feet.

COCKATOO (Walter's), purple, tip white; very large; good eye. 4 ft.

DUCHESS OF KENT (Knight's), yellow, tip white; good in either state, and fit to show as a self, which it often comes. 3 ft.

EUGENIA (Addis'), purple, tip white; good centre, always showable; rather too ribby at times; but the colour is much wanted; constant. 4 ft.

ELIZABETH (Proctor's), purple edged, good old show flower; well known. 3 ft.

ENCHANTRESS (Alexander's), blush, striped purple; first-rate flower; large. 4 ft.

ENCHANTER (Keynes'), ruby, striped red; in the way of *Marvel*, but a much better flower; very full, perfect shape. 3 ft.

FLORENCE NIGHTINGALE (Dodd's), dark fawn, tip white; one of the finest fancy flowers ever yet sent out; grand show flower. 3 ft.

IMPERATRICE EUGENIE (Magnet), purple maroon, tip white; very delicate flower, requires thinning; very beautiful when in order. 3 ft.

INIMITABLE (Salter's), orange salmon, striped crimson; extra fine form, very full, requires well cutting out. 4 ft.

JONAS (Mason's), striped maroon; fine old flower. 5 ft.

LAURA LAVINGTON (Dodd's), fine old model; buff, tip white. 3 ft.

MISS HERBERT (Dodd's), maroon, tip white; rather uncertain, but very first-rate when caught; requires cutting well out. 4 ft.

MRS. SPARY (Keynes'), fawn, tip white, every flower tip; always to be depended on; good shape. 3 ft.

MISS FRAMPTON (Rawlings'), Red, tip white; must be well cut out, and will then throw most beautiful flowers. 3 ft.

MARVEL (Pope's), yellow, striped scarlet; good, useful flower, well known. 4 ft.

PIGEON (De Knyff's), rosy orange, tip white; must be cut out; very good show flower. 3 ft.

SPOT (Keynes'), lilac, spotted with crimson, sometimes comes all lilac; it is very first-class in either state, and must please every one. 4 ft.

TORSY (Keynes'), mottled purple; fine show flower. 3 ft.

TRIOMPH DE ROUBAIN (Buisson), buff, tip white; rather low in the centre, but very useful in a collection of twenty-four. 3 ft.

Fancy flowers require very little cutting out; they generally come large enough without it. Where I have considered it necessary I have named it. From the others, I merely thin away the under growth, and keep a good head of bloom. I now fulfil my promise, and trust my endeavours to satisfy your correspondents will be successful.—JOHN KEYNES, *Florist, Salisbury*.

CULTURE OF IMPATIENS JERDONIÆ.

Of all the plants that have of late years been introduced into this country, none stands more pre-eminent as an ornamental plant, whether for exhibition, or for adorning the table of the conservatory, than the *Impatiens Jerdoniæ*. It is so easy of culture, so showy, so princely in appearance, and continuing in bloom fully six months, is altogether so valuable, that no amateur, be his collection of plants ever so choice, should be without this gem.

The following mode of treatment has produced plants in

splendid condition, both as to bloom and foliage:—In the spring, small plants were shifted into six-inch pots, using one part fibrous peat, one part very rotten dung, partly dried, and without smell, and an abundance of white sand, all well mixed, but not sifted. The pots were plunged in a sweet hotbed, were watered *only* when water was wanted, were at all times shaded from the broad glare of sunshine, occasionally dewed with the syringe just before the departing rays of sun were lost in the west, at the same time closing the light. The appearance of the plants soon testified that such treatment was congenial to their nature.

When the plants began to put forth their most singular blooms, they were removed to the greenhouse, and in a temperature of 55° by day, and 45° by night, continued to bloom until Christmas. A long rest followed, which seems very essential, and when they began to make a move they were shifted into twelve-inch pots, with the same kind of soil and treatment as before. Be *very careful about the watering* in all liberal shifts. This is the grand thing to be studied. There are more plants killed by over-watering than by any one thing besides.

PROPAGATION.—Nothing can be easier to propagate. The same means used for striking the Fuchsia will do for this plant. A pot well drained and filled up with rich, sandy soil, the cuttings inserted in the ordinary way, covered with a bell-glass, and a slight bottom-heat, is all that will be required.

I mean to try a few plants out in the open borders this summer, and if this plant can be brought to thrive and bloom well in the open air, nothing that we have in the bedding way would equal it for effect.—W. H. MOULD, *West Everleigh, Wilts.*

THE CRIMEAN SNOWDROP.



This is not a plant newly-known, for it was carried, in 1592, to Constantinople, from one of its native places, the Caucasus, and is mentioned by Clusius, Pallas, and other early botanists. In their science it is known as the

Galanthus plicatus, or Plaited-leaved Snowdrop, the specific name alluding to the leaves being folded or plaited, somewhat after the manner of a shirt-frill. In the common Snowdrop (*G. nivalis*) the leaves are smooth and flat. Coloured drawings and descriptions of *G. plicatus*, will be found in the *Botanical Magazine*, t. 2162, and in the *Botanical Register*, t. 545.

The bulbs and leaves are larger than those of the common Snowdrop, and its flower-stalk is also stouter, and its flowers larger, than those of the common species; we do not think it, however, so showy, the green colour on the petals rendering its flowers less conspicuous.

The interest now aroused towards this flower is occasioned by its being found in abundance in the neighbourhood of our camp in the Crimea. It there well illustrated its just claim to be esteemed the emblem of *Consolation*. It came forth early in the spring an assurance, which never deceives, that the severity of the winter and its horrors were passed. "It has been deemed the emblem of Consolation, says Withering, because, by its earliest revival from the death-like repose of winter, it cheers mortal man with the assurance of reanimation." It is, therefore, a fitting plant also for the graves of those who rest from their labours on the battle-fields of the Crimea; and it is equally fitting to have its form carved on the marble memorials raised in this country in remembrance of those warriors.

ON THE FORMATION OF VINE-BORDERS.

By G. FLEMING, C.M.H.S.,

Gardener to the Duke of Sutherland, F.H.S., at Trentham.

KNOWING the great disappointment which has been experienced in forming Vine-borders for early forcing, I beg to give a plan and description of one which I have found to answer admirably, hoping that it may prove interesting and serviceable to some of your readers.

I shall begin by premising that, in order to secure a good crop of well-coloured, highly-flavoured Grapes in the latter end of February and the month of March, it is necessary to have the Vines thoroughly established in a border containing a substantial but not over rich soil, and which is placed under perfect controul as regards heat and moisture, a controul absolutely indispensable to ensure success.

It will be scarcely necessary to enforce the truth of this assumption by argument, as it is unreasonable to expect that a healthy co-operation will go on between the roots and branches if the former are confined in a border exposed to the cold and wet of our winter months, and the latter surrounded by the warm, moist atmosphere of a forcing-house.

In order to secure a proper amount of warmth in the soil, and to prevent an excess of moisture in cold situations, all communication with the subsoil should be cut off, the surface should be protected from rain and snow by some covering which may be easily and speedily removed, and the necessary amount of heat should be supplied from beneath. This is much more effectual as well as more economical than when it is applied to the surface: in this case, heat having a natural tendency to ascend, it rises into the soil, and distributes itself amongst the roots; in the other, a great portion of it escapes into the atmosphere and is lost.

It will be my endeavour to show that, by borders constructed on the following plan, this is quite practicable, and I also feel convinced that it is comparatively inexpensive, as the material employed to produce the heat is nothing more than fermenting manure, which, with the same end in view, is frequently laid on the surface, where it is objectionable in well-kept places on account of its unsightliness. I am aware that the expense of forming a Vine-border on this plan is large; but as all difficulties connected with a bad subsoil, and many others which a gardener has frequently to contend with, are entirely removed, and as he has a perfect control over circumstances, instead of having his endeavours constantly thwarted by them, he, with proper skill, is certain of success, which will amply repay the first outlay.

Soil varies so much in different localities, that it is almost superfluous to mention what I find to answer best for early forcing; but I am firmly of opinion that it should not be too rich for this purpose. The soil used in making the border

I am about to describe consisted of light, rich, turfy loam from an old pasture, mixed with some crushed bones and lime rubbish. When any further stimulant is considered necessary it is supplied in the shape of liquid-manure.

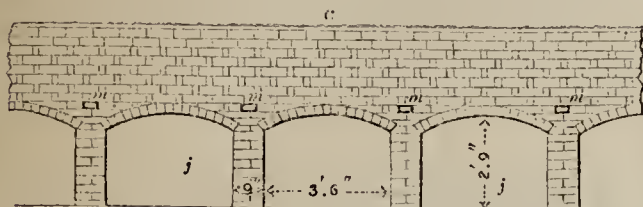
I believe the admission of the ammonia through the holes in the arches amongst the roots, and through the pipes into the house, to have a very beneficial effect upon the plants, particularly when the young leaves are expanding.

The only trouble necessary with the border is to lay a coat of dry fern upon it in September, and over the fern a tarpauling: these remain all the winter.

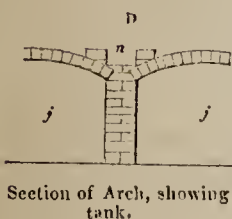
This plan will recommend itself strongly to those who desire to keep their gardens scrupulously neat, as there is

nothing unsightly in the tarpauling, and at a short distance it is scarcely distinguishable from the natural soil; the neat stone curbing also, and the Valencia slate-slabs, form a clean and ornamental path in front of the houses.

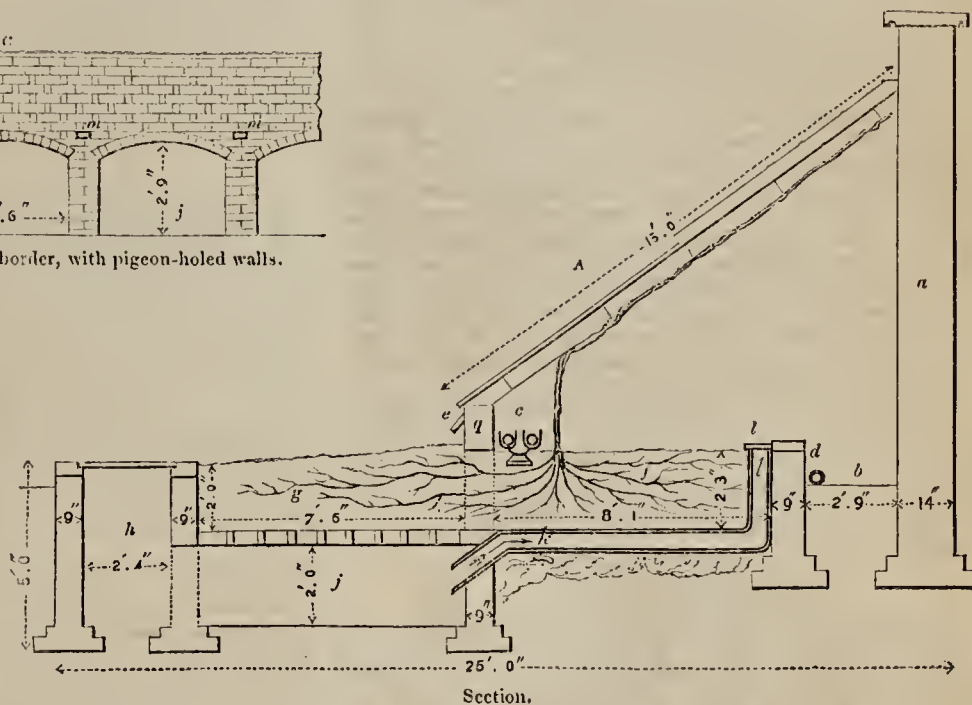
The bunches and berries attain a very large size in these houses; but I am of opinion that moderate-sized bunches, excepting for the purposes of exhibition, are much more satisfactory than very large ones, since the berries swell and colour better, and the bunches retain their bloom more perfectly and look better when dished up, keep up a supply longer, and when it is necessary to send the supply to a distance, they travel infinitely better: it will, therefore, be well to reduce the large bunches to a moderate size.



Elevation of Arches supporting border, with pigeon-holed walls.

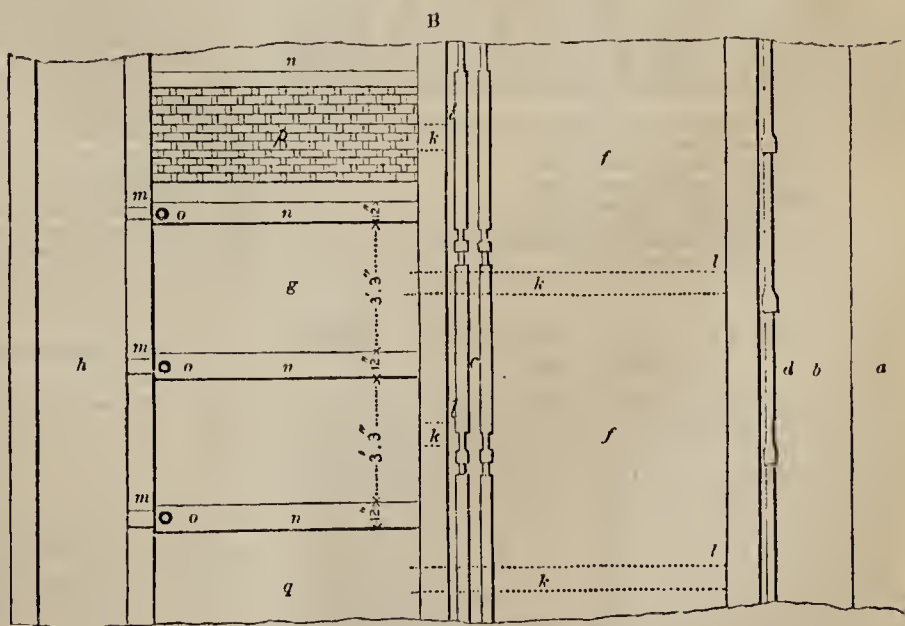


Section of Arch, showing tank.



- a Back wall.
- b Back path.
- c Flow-pipes, consisting of two lines of trough-pipes, 3 inches in diameter.
- d Return pipe, 3 inches plain.
- e Front ventilators.
- f Border inside the house communicating with outside border g by arches in front wall.
- h Dung-trench. The wall on the border side of this trench is arched below and pigeon-holed above.
- i Valencia slate-slabs, 1 inch thick, fitting into a rabbetted curbing-stone.
- j Dung chamber beneath vine-border, with arched roof: these arches are built with pigeon-holes as shown at p, through which the ammoniacal gas arising from the fermenting material enters the drainage and the soil, and is absorbed by the roots.
- k Six-inch common drain-pipes, with openings inside the house at l, through which the ammonia from the chamber j passes into the house and is absorbed by the young leaves. The openings l are provided with covers k, by which the ammonia may be admitted into the house or not, at pleasure.
- n Cemented brick troughs or tanks, perfectly level, 12 inches wide, 6 inches deep, extending from the front wall q to the front of the border g. These tanks, by means of a 3-inch pipe at o, are filled with manure-water at those seasons when it is thought advisable to give the plants an extra stimulus. There is an aperture in the front wall of the border at m, through which the hand with a small scraper can be introduced to clean out the tank and ascertain its wants.

—*Horticultural Society's Journal.*



Ground Plan of a portion of Vine-Border.

THE BRITISH MOSSES.

Now that our beautiful Ferns are being so much cultivated, I think their neighbours, the British Mosses, ought not to be overlooked. Though some of them are very minute, there is a charm thrown over many a sunny corner of this flowery earth by these humble, yet exquisitely beautiful, tenants of the glade. Were it not for the Mosses we should lose much of the pleasure of our woodland rambles. They seem inseparably connected with the Violet and Primrose—of them the robin builds her nest; and we have, ourselves, often in the broiling summer sun luxuriously reposed upon a bed of moss. They cling to the trunks of trees, making them to observing eyes not only interesting, but very beautiful, hiding the wounds that time has made; and then they creep over the thatched habitations of the poor, like true Britons, not neglecting the humble.

Altogether they form a distinguishing feature in English pastoral scenes. How we are struck when we come unexpectedly upon some ancient village, with its decaying outhouses and tenements! We hear the Sabbath bells calling the villagers to prayers: the mossy stream, whose silver waters leap from some woodland height, commingles its notes with the wild bird's song; bright, cheering, and dewy, it seems a scene where angels might walk untarnished. We wander on delighted. We cull the Primrose and Violet, but seldom bestow a moment's notice upon these charming little friends of ours. How ungrateful we are. Let us learn to appreciate them; let us try to cultivate them. I, for one, am about to make the attempt, and shall be glad to hear of a successful method of growing them.

I do not see why they should not be cultivated with success in a close, moist atmosphere, as well, or better (at least cheaper) than the exotic Lycopodiums in our stoves; and by every cottager, too, who is a lover of nature. The cottager has not too many treats in his power. Taught to be humbled, he bends to privation till he sometimes exclaims—

“Why was an independent wish
E'er planted in my mind?”

But when he becomes a flower lover, they soften his toil, and melt down his rugged feeling; he sympathises with nature: knowledge of her wonderful work steps in, and often, when his heart strings are ready to snap, he blesses his chains, for they have made him wise, and he can feel that “knowledge is the sunlight of the soul.”

If you think it will be any advantage, you shall have my humble experience on the cultivation of British Mosses as I proceed.—W. ELLIOTT, *Gar Abbey, Burton-on-Trent*.

(Had poor William Gardiner still been alive, how he would have sympathised with our correspondent. We have accepted the latter's offer, for we are sure that we have many lovers of the Mosses among our readers, and who feel as we do that

Those humble plants that clothe the rock
Or green the sterile waste,
Of no importance seem to him
Who scanneth things in haste;
But these the first foundation lay
Of vegetative power,
And but for these, we ne'er might have
A green tree nor a flower.)

COAL TAR FATAL TO WOODLICE, TOADS,
AND PLANTS.

I SEND you a note of an experiment tried to kill woodlice in a Cucumber-frame, which acted fatally both to the vermin and to the plants. I first of all got some coal-tar and boiled a certain quantity, and I then put a little around each bed against the flue, which is heated by manure. I went the next morning to see what was the result, and found the woodlice lying around the beds quite dead. The Cucumber plants looked quite healthy then, and they still continued so for the next day, but to my surprise, on the third day, after about one hour's sunshine, my plants were laid flat upon the surface of the soil. I have to regret, also, the loss of two poor toads, which were a great help to me. They were completely wasted to skeletons from the effect of the tar, and this determines me never to try an experiment of the sort again.

I shall be glad if you can inform me the reason of the tar killing the plants, and how it acts on them. Last year I found that the woodlice were eating my Melons when nearly ready for table, against which pillage I have a good remedy, by turning a pot upside down—placing a square of glass on the pot, and the fruit on the glass, which will prevent them from getting to the fruit, and I now think this plan is simple and good.—HENRY THOMAS, *Gardener, Kornos House, Wakefield*.

(Coal tar gives off fumes of ammonia, sulphureted hydrogen, and creosote, all three of which, in excess, are fatal to animal and vegetable life. If the Melon is cut from the stem of the plant, the inverted flower-pot and sheet of glass would be an effectual balk to the woodlouse, and so would the pot placed in a pan of water. If the Melon is not cut from the plant, the insect might crawl up the stem.)

NEW PLANTS.

ARALIA PAPIRIFERA (*Rice-paper Plant*).

It is one of the Natural Order of *Iryworts* (Araliaceæ), and of the Limæan *Pentandria Pentagynia*.

It is to the kindness of the talented Governor of Hong-kong, Sir John Bowring, and his son, J. C. Bowring, Esq., that we owe a more intimate acquaintance with the plant itself, and finally to the possession of the living and flowering plant. Our largest specimen, at out five feet high, placed in a damp stove, produced its fine panicles of blossoms in December, 1855; but, probably owing to the unfavourable season of the year, the flowers dropped off, almost as fast as they were developed, and bore no fruit. From dried specimens that had flowered at Hongkong in the Governor's garden, we can make up the deficiency as far as the immature fruit is concerned.

It seems to be a native exclusively of the Island of Formosa; and no botanist has ever seen the plant in its native locality. By the untiring exertions of Sir John Bowring he induced the Chinese traders to procure living plants, when on their voyage to that island for the cargo of stems to make their paper.

“DESCR. Plant unarmed, five to seven feet high. Stem branching above, and from two to three, or at most four inches in diameter, forming very little wood, filled with the most exquisitely white pith, of which the famous “*Rice-paper*” of China is made. Young leaves, and branches, and a whole inflorescence entirely covered with copious, stellated, more or less thick and deciduous down; upper surface of the foliage at length glabrous. Fully grown leaves sometimes a foot long, cordate, five to seven-lobed; lobes acute, serrated, sinus very deep; texture soft and rather flaccid. Petioles very long, terete, furnished at the base with two, long (two inches in length), soft, subulate, erect stipules. Panicles from the extremity of the stem or branches and rising above them, then nodding, one to three feet long; branches all with subulate bracts, as well as the terminal and sessile, capitate umbels, which are arranged alternately on the ultimate branches. Flowers on short pedicels, polygamous, tetramerous. Ovary turbinate, woolly: margin of the calyx obsolete. Petals four, ovate, concave, acute, valvate, woolly on the outside. Stamens four, alternate with the petals, incurved; anthers oval, two-celled, rather large. Styles two, at first erect and slightly incurved, at length (in fruit) divaricated. Stigma small, capitate. The *Stylodipodium* is depressed and surrounded by an elevated, waved, fleshy ring. Fruit in the dry state nearly black, scarcely matre, subglobose, obscurely didymous, laterally, but moderately, compressed, smooth, crowned with the fleshy ring just mentioned, and the divaricating styles.”

—*Botanical Magazine*.

CYMBIDIUM CHLORANTHUM (*Yellow-green Cymbidium*).

A stove Orchid from Nepaul, introduced by Messrs. Lodiges. Blooms in May.—*Ibid.* t. 4907.

TUPIDANTHUS CALYPTRATUS (*Extinguisher-shaped Tupidanthus*).

Natural Order. *Iryworts* (Araliaceæ). Linn. *Polyandria Monogynia*. Found by Drs. Hooker and Thomson in damp forests, at the foot of the Khasia Mountains, in Eastern Bengal. It is a gigantic climber. Before the flowers open they resemble mallets, whence is derived the generic name.—*Ibid.* t. 4908.

CATTLEYA BICOLOR (*Two-coloured Cattleya*).

The two colours of this Orchid's flowers are rosy-purple and pink. It is a native of Bon Jesus de Bananal, in Brazil. It blooms in October.—*Ibid.* t. 4909.

PENTAPTERYGIIUM FLAVUM (*Yellow Pentapterygium*.)

Natural Order *W'hortleberries* (*Vacciniaceæ*). Linn. *Decandria Monogynia*. A native of the Duple Hills, in north-eastern India, at an elevation of more than 4,000 feet above the sea's level. In its native, shady forests it grows on trees, but is erect when cultivated in our stoves. It is a beautiful plant, its nodding clusters of yellow flowers contrasting well with its very dark green leaves.—*Ibid.* t. 4910.

HEATING BY GAS.

IN answer to your correspondent, "W. X. W.," on the subject of heating by gas, in your No. 391, tell him that I have tried it, and found it so very expensive, that I would strongly advise him not to adopt it. It cost me to heat a boiler, with about forty-five feet of $4\frac{1}{2}$ -inch iron pipe, *six to seven* pounds a quarter-of-a-year, subject to the annoyance of a great accumulation of soot or lamp-black on the boiler. I have set it aside, and adopted the plan of Messrs. Lankester, of this town (Southampton), by a conical boiler, and now find a perfect supply of heat in nearly 150 feet of $4\frac{1}{2}$ -inch pipe (*hot-water*), at a cost of about 15s. a month (coke and Welch coal), which heats my Orchard-house, a large greenhouse, and a smaller one, for a cooler or rest house. There is no better mode adopted, that I can find, than Lankester and Co.'s plan by *pressure*; the cistern being supplied from the boiler, and is about twelve feet above the boiler, consequently, a regular and quick circulation takes place, at a heat from 80° or 90°, or much more, to 50° or 55°, and regulated as required by stop taps.—R. P.

N.B.—I have tried the circular jets, the gauze wire, and a patent kettle-boiler, and many others, but all were useless.

TOM TITS AND PEACH BLOSSOMS.

I was caught napping. You may laugh; but I must out with it for the common good. Well, some four weeks since, when I need hardly tell you the weather was cold, very cold, I found on the ground, at some distance from home, one of the pretty blue Tom-tits apparently in its last struggles. Poor, wee thing! I felt sorry for it, so I took it up and carried it home; nursed it by the fire, was pleased to see it open its eyes, and, when restored, placed it carefully in a nice cosy corner, in a long range of Peach-houses; the trees at the time were in full bloom. Being at home next day, I was delighted to see my little friend quite at home in his new quarters. Now, my young friends, mark what follows.

I knew before I put this little bird in the house that the tribe was fond of buds, but up till yesterday they had never, to my knowledge, done me any injury; then why should I have left this poor thing to die, or taken its life? Well, yesterday I found, to my experience and cost, that the above, in the mean time, had not only apparently introduced its mate into this happy land, but even to the nineteenth cousin has been made aware, I suspect, of the good, easy sort of a fellow I was, and the nice summer residence, with its thousands of pretty flowers to choose from. Alas! even that birds, a little it appears like ourselves, will not let well alone. So they could not be content with taking a share, but from caprice, or, perhaps, finding one tree's blossoms more sweet or handsome, probably a better stock of green fly, they must strip two or three trees, which led to the detection of their depredation, and the consequence is, I have been reluctantly this morning obliged to declare war against the family, making it conditionally that none but the intruders are to be punished. Up to the time I am writing this, report says that eleven have been caught in the act, and paid the penalty. Sufficient, I hope, as a lesson for the remainder. Now, my young friends, here is a lesson for you, as well as one for me; and as I believe we cannot know too soon what to avoid, allow me to say to you, try and avoid the various classes of Tom-tits you will be sure to come in contact with in your journey through life.—D. FERGUSON, *Stowe, Buckingham*.

THE HOUSEHOLD.

THE PRESERVING AND COOKING OF KIDNEY BEANS.—As it is getting near the planting time of this useful and much admired vegetable, I recommend gardeners, and particularly cottagers, to sow a few rows more than common, as they will be exceedingly useful for a change in winter, by following these directions. To preserve them, gather the Beans when middling thick, or when too old for our employers' tables, and gather them when quite dry; but, instead of wasting them, let them come in usefully for the gardener's table during the winter. Cut them in the same way as for the use of the table. After having cut a good quantity, have ready a large jar; put into it a layer of cut Beans and a layer of salt, till the jar is full. In a few days the Beans will have settled down, then fill the jar up again and add plenty of salt; after which take a thin board just fitting the jar, put a white cloth over it, place it on the Beans, and then put a stone on the top of it to press them down. Let the salt brine be up to the board and cloth, and put the jar by in a dry place, for winter use. When wanted for cooking, prepare them in the following manner:—Put into a pan as many Beans as are needed for dinner, adding plenty of water, — place the pan on the fire, and let them boil for a quarter-of-an-hour, then take them off and strain them through a cullender; then put them into fresh water and let them boil till tender, when they are ready for table. I have had some to day (April 7) preserved in the above manner, and very good they were. The cottager on the continent does not think of facing the winter until he has a tub full of Sour Kohl and Eingemache Bohnen. I hope this short account may be useful to some of the readers of *THE COTTAGE GARDENER*.—EIN HAMBURGER.

QUERIES AND ANSWERS.

GARDENING.

SOWING LINUM GRANDIFLORUM.

"Last year, I bought a packet of *Linum grandiflorum rubrum* seed. I sowed it at different times, both in a slight hotbed and in a greenhouse, but not one of the seeds grew. I got a packet of the seed again, about a month since, and have sown it, at two different times, in a slight hotbed, with no better success. Is there any particular kind of soil, or any mode of managing it in order to get it to germinate? My impression is, they have been some old dead seeds of some other species of *Linum*. In Carter's catalogue it is described as "one of the most splendid perennials in cultivation, flowers the first year, bright scarlet, succeeds best when raised in a frame." In another catalogue, from one of the principal London establishments, it is classed with the hardy annuals. Again, in another list it is called half-hardy annual. Which of these accounts is correct?—A. D."

[The plant has not yet been sufficiently tried to speak of its distinctive character. It is difficult to manage, at the best; and we do not pretend to say much about it, for we have had it pretty good, and failed, and could see no clear reason for the difference. We hope to be able to say more by-and-by. Get another packet, from a respectable firm, drain a pot well, fill it with loam and peat, fine on the top, and mixed with silver-sand. Sow the seeds, cover slightly, pat down, and place in a slight hotbed, and cover with a bell-glass, or a square of glass. Water through a fine rose in three days after sowing, cover again with glass, and shade, and, most likely, before long you will have a batch of seedlings. The square of glass is necessary, as the seeds are apt to be eaten by vermin.]

FORMING A CHEAP PIT, AND ITS ADVANTAGES.

"I think I have an opportunity of purchasing two or three glass garden-frames. Now, I have an idea, that if I dig a pit, and then wall up the sides with brick, of course to the size of the frames, and then put some stable-dung in the bottom, that I shall have a continuous hotbed, which will enable me to bring on tender and half-hardy annuals,

cuttings, &c., so as to keep my flower-garden continually supplied with flowers. And I also think that it would be convenient to winter my plants in pots, and bring on Hyacinths, Anemones, &c., early and in succession.—C. B."

[There can be no question but that you may do as you propose with much advantage for forcing purposes. Even a pit without walls at all, and the frame standing above the ground-level, would yield more heat than if the fermenting material was all above ground. A continuous heat, however, can only be maintained where there is a continuous fermentation in the decomposing matter. You will have no difficulty in raising annuals, &c., and in striking cuttings in spring for the flower-garden, provided your fermenting matter is sweet, or so covered that the injurious steams will not reach them. It would also do well for bringing on Hyacinths; but, if at all hot, would be too warm for Anemones. For propagating flower-garden plants in the autumn, cold frames would answer equally well, and better, as there is plenty of heat in the earth and in the atmosphere. For keeping bedding plants in winter, nothing is worse than these sunk dung-pits; but you could have a raised stage of boards. See an article lately on this subject partly by Mr. Fish. We do not clearly understand about putting out your pots in the ground. In rich, damp soils, Geraniums are better turned out, pots and all; but most plants do best when planted out without pots, about the 20th of May. If we do not meet your case, write again.]

RETARDING THE BLOOMING OF PELARGONIUMS.

"Will you oblige a Subscriber by informing her whether it is possible to retard the flowering of Geraniums till the end of August? Would they re-flower if the first buds were taken off?—A BIRD OF PASSAGE AWAY ALL SUMMER."

[The attempt to accomplish that which is here asked about has been made a thousand times, and failed as often; yet many kinds of Geraniums flower in September, after flowering in June and part of July, then rested, out-of-doors, without being cut down. *Gauntlet*, *Priory Queen*, *Negress*, and all of that habit, seldom fail to bloom a second time, after a month's rest; and, no doubt, such kinds might be made to flower better, by a course of management different from that which ensures fine blooming; but that course is yet to be learned, as far as we know. At all events, you cannot, by cutting off the blossoms, make them bloom out of time.]

THE WALTONIAN PROPAGATING CASE.

"Reading the interesting article on the *Waltonian Propagating Case* in THE COTTAGE GARDENER, urges me to try; but my utter ignorance of the management of any artificial means of propagating, induces me to write to you, to beg the favour of your asking Mr. Beaton to give an article on the mere rudiments of propagating by artificial means, particularly in reference to the "Waltonian Case." It occurs to me, that the "Waltonian Case" will not be very useful, except in connection with a greenhouse.—CAROLINE HODSON."

[Although a greenhouse is the best place for a Waltonian Case, you may work it in-doors in any room facing the sun. Mr. Walton has learned to strike cuttings, and to rear seed in the case. Mrs. West and her maid have just turned out a large collection of hardy annuals, which they have reared in one of these Cases, which stood in the shop fronting the north; that case is filled again; and there is another form of the Waltonian Case in full operation in Mr. West's shop, and "hundreds come to see it." There is no difference in the way of managing the cuttings, seeds, or plants, from that followed in a common hotbed; but we shall write a full article about it towards the end of the propagating season. We watch it now, from day to day, but we cannot yet make out any difference between it and a "tank bed," except the tidiness, which is altogether in favour of the Waltonian Case.—D. B.]

TO CORRESPONDENTS.

MUSHROOM-BED FAILING (*Rev. L. W. J.*).—If you had told us how you proceeded, we should have been able better to tell you all about it. Our impression is, that your bed is too cold and too dry. Mushrooms

care but little about air. When the spawn is working freely, the inside of the bed will be from 75° to 80°, though the atmospheric temperature should be only from 50° to 55°; the latter being a good average for Mushrooms. Supposing, as you say, that your spawn has worked, and the bed is dryish, make a number of small holes with a pointed stick, water with soft-water at 75°, cover with an inch of soft hay, and reduce it and wholly uncover as the Mushrooms appear. If this does not meet your case, write again, and we will give an epitome of culture, as few crops are more certain, if properly attended to.

DAPHNE AND STRELITZIA (*B. C.*).—The treatment of the *Daphne* and the *Strelitzia* were given a few weeks ago. When done flowering, keep the *Daphne* close and warm to encourage growth, and place it in a cold pit, or out-of-doors, in August and September. The greenhouse will be too cold for the *Strelitzia* in winter; it should have a temperature of from 50° to 55°. We can form little idea of what the plant is you speak of. Is it an *Hedychium*? You can do no harm in curtailing the roots.

SEEDS OF ENOTHERA MACROCARPA (*C. M. D.*).—Our correspondent says—"Mr. Beaton has lately stated that the *Enothera macrocarpa* will not come from seeds. I beg to say that I sowed some three or four in the open ground a few years ago, of which one, at least, vegetated and lived."—*Incarvillea sinensis* is now generally known as *Tecoma grandiflora*.

FERNS (*F. J.*).—In general, they succeed best uncovered with glass; but wherever kept they require air, and moisture, and shade. They vary much as to the heat they need.

LEAVES OF HIRISCUS AND CLEROHENDRON (*Constant Reader*).—The leaves of your plants seem to have been infested with the Green Fly or Aphis. From the filthy state of the leaves sent, which were covered with the excrement, &c., of such creatures, we should say your house or houses need a good tobacco fumigation. This should be done on a calm evening, having the house well closed for the night. After this, all such filthy-leaved plants should be thoroughly cleansed with water by the aid of a small brush or a bit of sponge, and the use of the syringe. Such jobs should be performed on wet days or evenings.

VARIOUS (*A Devonshire Subscriber*).—*Cavendishia nobilis* was the best new plant in Matthew's specimens, which he gathered on the Cordilleras of Peru, in the country of the Cinchonas. It was named after the present Duke of Devonshire. It is related to *Thibaudia* and the new *Ceratostema*, in the order of Cranberries (*Vacciniaceae*). It is a bush much like a *Rhododendron*, the flowers come in heads at the ends of the branches (capitate racemes); each flower is a tube an inch long, and is of the most vivid crimson, just fitted for a corner in your terrace garden. Mr. Beaton knows nothing more than he said about the new *Bholan Rhododendrons*, but he will inquire in the course of the summer. There was some fault or other about the bulb or root-stock of your gigantic *Lily*; no plant grows more freely; but you ought not to keep it in the conservatory in South Devon, where it will be more at home in the open air than the Sikkim *Rhododendrons*. As to the *Javanicum*, alas, for public instructors! Have you forgotten our descriptions of the first crosses from that strain? *Rhododendron Javanicum*, and *Jasminiflorum*, and all the sections that have yet been tried, as far as we know, cross as freely as Crucifers. *Eucharis grandiflora* is, indeed, a fine thing when well done, but it will not cross with an *Amaryllis* or a *Hippeastrum*; it is too near the Hoop Petticoat for that. It belongs to the Coronet section of the order. If it will cross with any neighbour at all it will be with the *Choretis*, or some kind or form of *Hymenocallis*; it is a perfectly legitimate genus, however. *Amaryllis blanda* is in England, and near London, with an amateur; it is nearly related to the *Bella Donna*, and is a very scarce plant indeed. If Mr. Linden has found out the true one he ought to send a head of flowers of it to be exhibited in London next October or November.

COST OF SENDING TREES TO AUSTRALIA (*An Enquirer*).—It would be no guide to state what they cost Mr. Beaton. The *Rural Magazine* is published at Sydney.

AFRICAN SEEDLINGS (*T. M. W.*).—Turn them out at once under a south wall.

SUNFLOWER SOWING (*A Reader*).—Sow now; any good loam will suit it. Write to any seedsman who advertizes in our columns. You might grow Tomatoes as you suggest, but they will require careful culture.

GRASS FOR LAWN (*N. M. G.*).—You ask for "the best Grass" for a lawn on a heavy soil, and as this query confines us to one species, we answer, *Cynosurus cristatus* (Crested Dog's Tail). We do not like *Achillea millefolia* for lawns; but far prefer the White Clover.

ANTS (*G. Baker*).—Disturb their haunts, and cover these with gas-lime.

CULTURE OF PLEUROTHALLIS SAUROCEPHALA (*R. P.*).—The genus *Pleurothallis* contains a great number of small-growing Orchids, mostly very uninteresting. They are natives of the Brazils, and other warm parts of the southern division of America. Some few are found in the West India Islands. They are grown on the branches of trees, and, therefore, thrive best on blocks of wood. The species you mention (*Pleurothallis saurocephala*) is, perhaps, the most curious of the whole tribe. The column has much the appearance of a lizard's head—hence its specific name. Procure an Oak block, and tie with copper-wire the plant to it, wrapping a little green moss round the block also with the copper-wire; hang it up to the roof, and, whilst growing, syringe it gently every day; keep the air moist also, and when the growth is completed, give less water and heat till the growing season returns. By such a course of management your plant will thrive and flower when strong enough. It may be increased by division, treating the divided parts exactly in the same manner.

RAISING THE POLYANTHUS FROM SEED (*E. H. S.*).—There are two methods of raising the Polyanthus from seeds. The first is to prepare a border in the open air; the soil should be excavated, laid in a heap, if of good average quality, and mixed with well-decayed leaves, or very rotten dung. Whilst this is being mixed, place a thin layer of littersy stable dung at the bottom of the border; then throw in again the mixed soil, and, after levelling it, sow the seeds upon it rather thinly, cover lightly, say an eighth-of-an-inch, and pat the covering gently down with a rake. If the weather should prove dry, water lightly every evening. Unless the plants come up very thick, they may remain in this border till they flower the following year; then select the best, and either throw

the others away, or plant them in borders under shrubberies. The best may either be transplanted into a rich, shaded border, or potted and grown in frames during winter, and behind a low wall, or hedge, facing the north, after the blooming season is over. The other method is generally used by florists for very carefully impregnated and selected seeds saved from the best named varieties. It is not likely you will get any of such saved seed from the seedsman, but you may, hereafter, save some yourself; then make, or cause to be made, a sufficient number of boxes, of about eighteen inches long, fourteen inches wide, and six inches deep. At the bottom of the boxes bore some holes, to allow the superfluous water to escape. To preserve them, char the inside, and paint the outside. Prepare a compost of two-parts loam (turf decayed from an up-land pasture), and one-part leaf-mould, or rotten dung. Then, at the latter end of March, or the beginning of April, prepare to sow the *Polyanthus* seed, by placing a layer of broken pots, or oyster shells, all over the bottom of each box. Upon that lay some pieces of decayed turf, and then fill them with the compost, pressing it down gently, leaving about half-an-inch from the top to hold the seeds, the covering of soil, and sufficient water to wet the soil thoroughly when dry. These points having been attended to, then sow the seeds, covering them with fine-sifted soil very thinly. Place the boxes (if convenient) under a cold frame, and keep the soil moderately moist. Shade from bright sun, and give plenty of air on all favourable occasions. The seed will then soon sprout and come up; after that, the seedlings may be set out-of-doors, and, when strong enough, transplanted into a prepared border in a rather shady place, and managed afterwards as described above for those sown in the open air.

SIX GOOD PELARGONIUMS, AND SIX GOOD FANCY PELARGONIUMS (P. H.).—The following six are good show flowers:—

1. *Colonel of the Buffs* (Hoyle).—Bright orange; large trusses; a free bloomer, and very attractive.
2. *Cloth of Gold* (Foster).—A bright flower, with dark maroon top; petals margined with scarlet.
3. *Fair Ellen* (Story).—A very desirable white variety of first-rate quality; lower petals white; dark blotch on the top petals; tinged with carmine, with the margin white and well-defined; very smooth on the edges; of a dwarf habit, and a free bloomer.
4. *Governor General* (Hoyle).—A good shaped flower, with a white centre, and glowing scarlet-rose petals; a free bloomer, and strong habit.
5. *Petruchio* (Fouquett).—A large, showy, free-blooming variety; lower petals crimson; upper petals dark maroon, edged with crimson. A variety that can be strongly recommended.
6. *Virginia* (Hoyle).—A great improvement on *Virgin Queen*; lower petals very round and broad, and of a pure white; upper petals very dark, shaded with purple, and evenly edged with white.

The following are six good Fancy Pelargoniums:—

1. *Advancer* (Ayres).—Purple-mulberry, suffused with rose; a good show flower, of fine form.
2. *Cloth of Silver* (Henderson).—Silvery-white, with delicate rose blotch; under petals pure white; a fine variety.
3. *Dandy* (Ambrose).—Fine form; upper petals rich crimson-maroon suffused with carmine; lower petals broadly margined with white.
4. *Formosissimum* (Ayres).—Fine dwarf variety, with rosy-crimson flowers; free bloomer.
5. *Gipsy Queen* (Ayres).—Very attractive; good shape, with a free and distinct separation of colours, nearly black and pure white.
6. *Madame Sontag* (Ambrose).—A flower of fine form and substance, good habit, and a free bloomer; upper petals of a rich crimson-purple, with light margin; lower petals pencilled with lilac; centre pure white; a fine show flower.

CULTURE OF PAMPAS GRASS (T. Shuckell).—The Pampas Grass will grow well in any kind of soil that would do for Barley, or Oats, or Italian Rye-grass, or Beet, or Turnips; but it does not like strong Bean land, nor any land that is at all wet at the bottom. It would look best, and do best, on the south side of a hill, or bank, or rising ground. The soil should not be less than eighteen inches deep for it. About the end of April, and from that to the end of May, is the best time to plant it out "for good;" and one plant of it, at least, ought to be in every garden in the three kingdoms.

RHUBARB WINE (L. T.).—You will find an excellent recipe in our 99th number.

THE POULTRY CHRONICLE.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and Aug. 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close April 30th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray.

HULL AND EAST RIDING. At Hull, June 25th. Sec. B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

PARIS. May 23rd to June 7th. Sec., M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

PRESBURY. July 3rd. Sec., Mr. J. F. Oltard, Presbury. Entries close June 21st.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

N.B.—Secretaries will oblige us by sending early copies of their lists.

REARING CHICKENS.

It is most useful, at this time of year, to moisten eggs a few days, say two or three, before they should hatch. If the hen, when she leaves her nest, goes on the grass when the dew is on it, there is little necessity, as her feathers will thereby become wet, and moisten the eggs. But lacking it, the eggs in the nest should be sprinkled; if the fingers are dipped in water and then shaken over them it is enough.

Those who desire to rear strong chickens, and birds likely to figure in the prize lists hereafter, should bear in mind that they must be fed at day-break till they are at least six weeks old. They must also continue to cover the ribs in which they are with the hen at night, as, although the days get warm, the nights will be cold for some time.

When a piece of grass is devoted to hens and chickens, the rip should be moved every day. It is healthier for the hens and chickens; the ground does not become tainted, and, by moving them systematically and regularly, the ground first used is fit to be re-occupied when its turn comes.

Where space admits of it, it is very beneficial to have a walk for chickens quite separate from that for adult fowls; they have more liberty and fresher ground, and it is easier to feed them well.

Nothing is more beneficial in a poultry-yard than a long shed, sheltered from cold winds, open to the sun, and covered with dry dust at the bottom; chickens can bask and clean themselves in it in all weathers, and where they have this opportunity they are always free from vermin. Each end of the shed should be closed, to prevent draughts.

Every faulty chicken among the early-hatched should now be removed. It is the season when such will pay to sell for consumption, and their removal will make it easier to give increased attention to the pickings of the brood, while, at the same time, it gives them more space and opportunity to do well. That which would become a serious outlay for a large number is a small expense for a few chickens.

WATER FOR THE FATTING COOP.

In the prize essay on Fattening Poultry, No. 386, p. 380, of *THE COTTAGE GARDENER*, a fattening coop with its feeding-trough are illustrated and described. At section iv. we read, "a supply of fresh clean water must be constantly present;" but no contrivance is mentioned in which to administer the water. For some years we have used a fattening coop very nearly representing the one illustrated, the feeding-trough exactly so, and very excellent they are for the purpose. But the water, ah! that was a difficulty. How many pots and pans became broken through standing them on the "ledge," for the fowls to drink out of, I cannot tell; and how soon the water became soiled, by placing it with the fowls in the coop, anybody may judge. But all that can be changed, by merely fitting a *moveable*, right-angled, zinc water-trough into one end of the feeding-trough.—UPWARDS AND ONWARDS.

BUFFETING INTO FRIENDSHIP.

ALL sorts of expedients are adopted to prevent fighting when a fresh cock is turned down in a yard. We can suggest a very simple plan, which has the prime merit of being very successful.

Tie an empty bag to the end of a long stick, and when the birds are intent on their encounter, buffet them with the bag one after the other. If they are watched for a short time, and this is done whenever they attempt to fight, they will give up their pugilism really from "fear of the sack."

PIGEONS KEPT FROM SALT KILLED BY EATING IT TO EXCESS.

The following cases appear to me so interesting, that I think no apology necessary for their publication. They were communicated to me by one of the most distinguished naturalists of the day, whom I am most proud to number on my list of friends. He writes to me:—"I have had a most unfortunate, and, in a medical point of view, curious accident this morning, viz., three of my best old pigeons

dying, and two or three others ill, from over-eating bay salt. What makes it more strange, is, that they have been accustomed to it, but have not had any for two or three weeks. I noticed that they ate very much, but I never dreamed of its making them ill, but in three or four hours I had half-a-dozen very ill, and three are now dead. This seems to me very surprising, but I cannot doubt in the least that it was the salt, and nothing else, as the deaths happened in two distinct houses."

These cases seem to me instructive, and would show that it is necessary to limit the quantity of salt given to birds, after they have been deprived of it for any time. I believe salt to be necessary for pigeons. Many wild varieties frequent the sea coast, and drink the salt water, and the natural appetite may be taken as an unfailing guide.—W. B. TEGETMEIER.

UNION BETWEEN THE DOMESTIC COCK AND DUCK.

In your number for March 18th, a correspondent signing himself "HARRY GREEN," asks if this will in any way effect the eggs? I, therefore, send you the following, as it may, in some measure, reply to his question.

My father had a single Musk or Muscovy duck, with which the Game cock had frequent unions. There was no other duck of any kind in the yard, nor was my father aware of any in the neighbourhood. The duck made her nest near the water, and laid and sat, but, unfortunately, one night the nest was swamped, and the eggs destroyed. When he broke the eggs, each had a partly-formed young bird in it, satisfying him that the union had been successful. Dr. Bechstein, in his "Natural History of Germany," mentions a case where six creatures were produced from the alliance of a cock and a common duck. They were hatched under a hen—four of them were drowned.—B. P. B.

PILE GAME FOWLS.

Your correspondent, "W. C.," March 25th, asks how Pile Game fowls are bred? In answer to which, I can inform him, that *Pile* means *pied* with white, and they may be bred from a white Game fowl, and one of any other colour. Thus, a red and a white produce red piles; a black and a white, black piles; a dun and a white, dun piles; a red dun and a white, red dun piles; and so on, according to the colour of which they partake. Piles may be again produced by coupling two piles. The pile cock is usually white, with hackle and back coloured; the hen white, with a coloured tinge on the breast, and also sometimes on the hackle and wing-coverts. Game fowls that on a dark ground are spotted with white, are called *spangled*. Thus, a red cock with white spots is called a "red spangled," or a black with white spots, a "black-spangled." Although Pile Game fowls have produced many good birds, and in some parts of the country they have been favourites, yet, as a general rule, the cock-fighters objected to a Game fowl having any white in its plumage, which at once shows the impropriety of so many of our poultry show committees placing White and Pile Game fowls first on their prize lists, while that station should be occupied by the Reds, and seconded by the Duckwings, which are the chief of the Game breeds.—B. P. BRENT.

OUR LETTER BOX.

DIFFICULTY OF BREATHING IN A POLAND FOWL (W. H. S.).—The Poland suffering from a difficulty of breathing, attended with much noise, but otherwise well, is affected with inflammation of the windpipe, or croup. One-twelfth of a grain of tartar emetic at night, and warm shelter for a few days will soon relieve him.

CHICKENS GAPING (Sarah).—If your chickens are frequently thus affected there must be some cause in the locality, food, or drink. If the disease arises from a small worm in the windpipe the most effectual remedy is shutting them up in a box with some shavings moistened with spirits of turpentine.

PROPERTIES OF FOOD (Flora).—We use fine middlings, oatmeal, and crushed barley alternately, for our youngest chickens—a variation in diet leading to an increased appetite. A table of the value of different

grain, such as you require, is contained in the Prize Essay on Feeding Poultry, now being republished by Mr. Tegetmeier. Your previous inquiry did not come to hand.

HENS DYING SUDDENLY (An Old Subscriber in the Country).—The cases, four in number, are so unusual, and so similar in symptoms, that we suspect the birds were poisoned.

DORKING FOWL (Rev. H. M.).—None of our numbers contain an essay on the subject. The kind of book you suggest is preparing.

BAKED BUDGAREE-GARS.—"In answer to the enquiry of "A SUBSCRIBER FROM THE COMMENCEMENT" about the breeding of the Budgarce-gar (*Melospittacus undulatus*) in confinement, I can inform him that Mr. Sayer, a bird preserver at Norwich, succeeded in breeding a pair of them last year, and is trying it again; but that, I understand, this was the first time it had been done. The birds were kept in a large cage, with a small hollow stump as nesting-box, and fed, old and young, entirely on canary-seed. The sexes are to be distinguished by the colour of the cere, which is bluish in the cock; brown in the hen.—DUCK-WING."

"Your Subscriber, wishing to know how to manage the small Parrot called Budgerigars, will get all the information he requires, by calling on Mr. Jamrah, foreign bird dealer, Ratcliffe Highway. He has always a quantity of them breeding in a room heated by a gas-stove. I saw a dozen, or more, sitting in small holes in the wall and boxes; they breed in the autumn, and are fed on canary seed. The old birds turn the young ones out of the nest before they are fledged, but they can feed themselves at a very early age.—AN OLD SUBSCRIBER."

FOWL WITH TUMOUR (G. H.).—The case is not sufficiently described to enable a correct decision to be arrived at. Most possibly the tumour is a kind of abscess, which, as it becomes soft, had better be opened with a sharp knife, and the matter formed allowed to escape.

LONDON MARKETS.—APRIL 21st.

COVENT GARDEN.

Supply moderate, and a trifling improvement in the demand. The late boisterous weather has somewhat interfered with the importations from the Continent, which now comprises *New Potatoes*, *French Beans*, *Asparagus*, and the usual description of *Salading*; also, *Green Peas* and *Globe Artichokes*. We have also received some excellent frame *Potatoes* and *Asparagus* from Jersey, with a good sample of forced *Grapes* in excellent condition. *New Spanish Potatoes* 3s. to 4s. per dozen pounds.

FRUIT.

Apples, kitchen, per bushel.....	6s. to 10s.	Parsnips, per doz....	6d. to 9d.
" dessert	6s. " 10s.	Beet, per doz.....	1s. to 1s. 6d.
Pears, per dozen	1s. " 3s.	Potatoes, per cwt. ..	3s. " 6s.
Pine-apples, per lb....	8s. " 12s.	Onions, young, ditto..	1d. " 2d.
Foreign Grapes, per lb.	3s. " 4s.	Turnips, per bunch..	" 3d.
Hothouse ditto, ditto	15s. " 25s.	Leeks, per bunch	2d. " 3d.
Strawberries, per oz..	1s. " 2s.	Garlic, per lb.	6d. " 8d.
Foreign Melons, each	0s. " 0s.	Horseradish, per bundle.....	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. " 10s.	Shallots, per lb.	6d. " 1s.
Seville Oranges, do...	6s. " 12s.	Lettuce, Cos, each	6d. to 8d.
Lemons	6s. " 12s.	" Cabbage per doz.	2d. " 3d.
Almonds, per lb.	2s. " —	Endive, per score ..	1s. 6d. " 2s.
Nuts, Filberts, per 100 lbs.	50s. " 60s.	Celery, per bunch..	9d. " 1s. 6d.
" Cohs, ditto ..	60s. " 70s.	Radishes, Turnip, per dozen bunches	6d.
" Barcelona, per bushel.....	20s. " 22s.	Water Cresses, ditto ..	6d. " 9d.
Nuts, Brazil, ditto..	12s. " 14s.	Small Salad, per punnet.....	2d. " 3d.
Walnuts, per 1000 ..	9s. " 12s.	Artichokes, per lb.	2d.
Chestnuts, per bushel	15s. " 24s.	Asparagus, per bundle	5s. " 12s.

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.	" Red, per doz.	2s. " 4s.
" Cauliflowers, per doz.	4s. " 6s.	Brocoli per bble	1s. " 2s.
" Savoy	1s. " 2s.	Savoy	1s. " 2s.
" Greens, per doz. bunch.	4s. " 6s.	Spinach, persieve....	— " 4s.
" French Beans, per hundred	1s. 6d. " 2s.	Carrots, per bunch ..	4d. " 6d.
" Mushrooms, per pot	1s. 6d. " 2s.	" Basil, per bunch	4d. " 6d.
" Herbs	4d. " 6d.	" Marjoram, per bunch	4d. " 6d.
" Fennel, per bunch ..	2d. " 3d.	" Savory, per bunch ..	2d. " 3d.
" Thyme, per bunch ..	2d. " 3d.	" Parsley, per bunch ..	2d. " 3d.
" Mint, per bunch	2d. " 4d.	" Green Mint	6d. " 8d.

POULTRY.

The season is giving evidence that it has been more favourable, by the influx of small spring chickens. A comparison with last year will also show ducklings and goslings are more plentiful.

Large Fowls .. 7s. to 7s. 6d. each.	Teal 0s. 0d. to 0s. 0d. each.
Smaller do. 5s. 6d. to 6s. 0d. "	Leverets .. 4s. 0d. to 5s. 6d. "
Chickens 3s. 6d. to 5s. "	Pigeons 10d. to 1s. "
Goslings..... 7s. 0d. to 8s. "	Rabbit..... 1s. 6d. to 0s. 0d. "
Ducklings 4s. to 4s. 6d. "	Wild Ditto .. 10d. to 1s. 0d. "
Guinea Fowl 4s. 6d. to 0s. 0d. "	Wild Ducks 0s. 0d. to 0s. 0d. "
Plover's Eggs, in bulk.....	3s. 6d.

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WEEKLY CALENDAR.

D M	D W	APRIL 29—MAY 5, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
29	TU	Staphylinus laminatus.	30.184—30.054	54—41	N.	—	37 a 4	18 a 7	3 1	24	2 49	120
30	W	Staphylinus maculicornis.	30.224—30.200	53—38	N.	—	35	19	3 17	25	2 57	121
1	TH	Asc. HOLY THURS. PRINCE	30.063—30.019	52—32	E.	—	IV	VII	3m30	26	3 5	122
2	F	[ARTHUR B. 1850.	30.047—29.857	62—20	N.E.	—	31	22	3 43	27	3 12	123
3	S	Telephorus fulvicollis.	27.702—29.638	64—35	N.	—	29	24	3 58	28	3 18	124
4	SUN	SUNDAY AFTER ASCENSION.	29.665—29.704	50—24	N.E.	—	28	26	sets.	29	3 24	125
5	M	Malthinus immunis.	29.508—29.914	57—30	N.E.	—	26	27	9 a 15	1	3 29	126

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 62.4°, and 40.7°, respectively. The greatest heat, 81°, occurred on the 4th, in 1833; and the lowest cold, 25°, on the 2nd, in 1852. During the period 109 days were fine, and on 87 rain fell.

CYSTOPTERIS DICKIEANA.



THIS Fern was discovered in a cave upon the sea-shore near Aberdeen, and it has been named after its discoverer, Dr. Dickie. He found it during the year 1846, and we are not aware that it has been found elsewhere than in that cavern. Mr. Francis thinks that it is only a variety of *Cystopteris fragilis*; whilst Mr. Moore and Mr. Babington make *C. dentata* a species, and consider that *Dickieana* is a variety of this. With such authorities against us, we hesitate to express our conviction that it is a species. However, as we feel that conviction, we are bound to record it. Even those who describe it as a variety acknowledge that it retains its characteristics under cultivation, and we have been told that it is reproduced from its spores. If this be so, there can be small doubt of its title to be ranked as a species, and we shall be much obliged by the communication of any information on this subject.

Root tufted, pale brown. Frond dark green, pointed egg-shaped in its general outline; leaflets inclining to a horizontal position, and so close together that the leaflets overlap those on the leaflet next below. The leaflets are

spear-head-shaped, and the leaflets, if leaflets they are, but they are so joined at their base as to be for the most part lobes, are crowded and overlapping, broad-egg-shaped, and finely-scolloped on their edges. The fructification is in very distinct masses, never running together, situated at the ends of the veins so as to form a beading round each leaflet, or lobe. The entire height of the frond varies from four to six inches; about one-fourth of its stem, which is stouter than in any other species of the genus, is without leaflets, and this unleafleted part is at the base covered with brown scales.

Since the above was written, we are confirmed in a satisfactory degree, by finding that Mr. Newman looks upon "*Dickieana*" as a possible, but by no means established, species."—"It is a perfectly healthy plant, not monstrous, nor distorted, and produced freely from seed, becoming a perfect weed." If this be so, no doubt is left upon our mind that *C. Dickieana* is a distinct species; and that it does reproduce itself from spores we have the additional testimony of Mr. Moore, who says, "It is now common in cultivation, having been distributed liberally by Dr. Dickie, and is found to retain all its peculiarities, and to reproduce itself from spores."

For its cultivation see page 422 of our last volume.

THE April Meeting of the ENTOMOLOGICAL SOCIETY was held on the 7th instant, the President, W. W. Saunders, Esq., F.R.S., &c., being in the chair. A long list of donations of books and memoirs, received from the Royal and Linnæan Societies, the Society of Arts, the Entomological Society at Stettin, the Royal Society at Van Diemen's Land, Messrs. Newman, Stainton, Douglas, &c., was read; a small collection of minute insects from Ceylon was also presented by Mr. Thwaites, the superintendent of the Botanic Gardens at Parradenia.

The President announced that the Council had selected as the subject for the Essay for the prize of £5 for the present year, the Small Moth which is so common in pasture lands and on commons, known under the name of *Gelechia terrella*, but of which the economy has not hitherto been observed; although it is probable, from the great abundance of the species, that it will be found to be injurious to agriculture.

The Secretary stated that a new part of the Transactions, completing the current volume, was ready for distribution, containing three plates.

Mr. Augustus Sheppard exhibited a specimen of the extremely rare and beautiful Moth *Ennomos alniaria*, taken near Margate in September last. Only two individuals of this species had hitherto occurred in this country.

Mr. Newman communicated a note, by Mr. Oxley, on the mode of flight of the species of Lepidopterous insects belonging to the genus *Synemon*, natives of Australia, and extremely interesting from their position in the order. By Mr. Doubleday, the founder of the genus, they were regarded as Moths, notwithstanding their clubbed antennæ. Mr. Newman, on the other hand, from their mode of flight, and position of the wings when at rest, considered them as more nearly related to the Skipper Butterflies (*Hesperidæ*), and as forming the connecting link between that family and the *Castniæ*. Some of the species had been taken abundantly at the gold diggings in Australia. Mr. Westwood remarked that the late Dr. Klng had published a detailed memoir on this genus.

Mr. Westwood also gave an account of two new genera of Beetles, of small size, remarkable for having the heads, in the males, singularly dilated and flattened on each side. One of these, from Guinea, belongs to the family *Erobytidæ*, and the other, from Colombo, in Ceylon (received from Herr Dohrn, the President of the Entomological Society of Stettin), was of doubtful relationship, although it appeared most nearly allied to the *Melyridæ*. Mr. Westwood also communicated an account received from Dr. Lee, F.R.S., the President of the Meteorological Society, of a remarkable ease of development of vast quantities of a species of *Mites* in a small cabinet belonging to a lady at Lyme Regis. They appear to have been introduced with a palm-leaf fly-flapper from Egypt, and subsequently to have spread over several of the adjacent apartments, infesting everything, and being destroyed with the greatest difficulty; numbers having even survived fumigation with sulphur; which, whilst it had effected a partial remedy, had seriously injured the furniture, books, and drawings, in the apartments. Various suggestions were made by the members present as to the application of chloride of lime, a weak solution of corrosive sublimate, chamomile flowers, &c., as a probable means of getting rid of the nuisance, the President stating that Professor Mosely had effectually got rid of great quantities of Cockroaches by the employment of chloride of lime.

A note, by Mr. Bates, at present resident in Brazil, and engaged in forming collections of objects of Natural History for sale, was communicated by Mr. S. Stevens, as to the characters distinctive of the two sexes in the species of the rare and beautiful genus *Agra*, belonging to the family of the Bombardier Beetle.

complacency, because the value of these Manuals arises from the knowledge and judgment of our contributors, which is now placed within the reach of everybody in a collected form, and at the lowest price.

MEETING OF THE HORTICULTURAL SOCIETY.—APRIL 22ND.

THE first question which I put on entering the rooms that day was—"How are the subscriptions in aid likely to succeed?" "Very well, indeed; much better than most of us expected. This very day, three hundred pounds are added to the common stock, which is now hard upon two thousand pounds, and if we go on at this rate till the Anniversary Meeting, on the 1st of May, we shall certainly be able to keep on the Garden so far. The proprietors of your COTTAGE GARDENER came out most handsomely." "They always do," says I; "and depend upon it, there are none among your friends who wish the retention of the Garden, and the success of the Society, more than the said proprietors."

As if to anticipate the good work, the best growers in the country, and round London, sent up beautiful flowers—new flowers, which no one in London had ever seen before; a good many crosses or cross seedlings, and sports, with most excellent Grapes, Strawberries, and Pears, and one handsome Pine-apple. Unluckily, however, for the first time, I had to absent myself from the lecture, which I regret, as some explanations about the nature of sports and cross-bred seedlings were looked for, from the distribution of such things before "the chair;" but the truth is this, I was engaged for some weeks on the genealogies of the African *Geraniums*.—*Pelargoniums* and *Erodiums* are only, by law, sections of *Geraniums*, after all; as I find that those who were in power at the time of the innovation of strange names into the family had protested against such fanciful names, and took the necessary means to allow the new names to cover no more than sectional divisions of the ancient and most respectable family name of *Geraniums*.

Well; I went to see Covent Garden first, and had a long list of names to look out in the library of the Society before entering the show rooms; but on my way from Covent Garden, who should I meet but Messrs. Standish and Noble, with the worthy landscape-gardener, Mr. Lovel, who is writing so ably on the subject in these pages, on their way to see the *Wellingtonia gigantea*, with regular passports. To this gigantic idea I gave up the library for a couple of hours, and joined them, got inside the tree with amazement and astonishment, and out of it with awe and wonder. For all this I had to forego a lecture in which I was particularly interested, and went into the library as soon as I finished my notes in the show room; but as I can talk about sports and crosses, just as well, and as much to the purpose, as any of our Professors, so cannot I write much about awful big trees without seeing them, my readers will rather be the gainers for my losing the pleasure of that lecture, when I shall come to tell all about the mammoth tree from California.

On entering the show-room of the Society, the first plant that caught my eye, for novelty, was a little bedding-like plant from the Chiswick Garden, which is called *Nemesia versicolor*. It was above a foot high, spreading much after the manner of some Spanish *Dianthus*, but is of a different order, that of *Figworts* (*Scrophulariaceæ*), and nearly related to *Alonsoa* and *Hemimeris*; the flowers are blue and lilac, and come very thickly all over the plant, which, if it continues to flower all the summer, or most part of the summer, or could be managed so as not to come into bloom till after the spring frost, it would be a general favourite for beds,

WE wish to call our readers' attention to the MANUALS FOR THE MANY, advertised in our columns. These Manuals contain a mass of sound, well-arranged information, such as is not to be found in any other works upon the same subjects. We say this without any self-

as at present it makes a nice front-shelf greenhouse spring bloomer, which is easily increased, and more easily kept over a long winter.

There was a little annual plant, from California, which was called *Nemesia floribunda*; but this now one has no resemblance to it. Also, from the Garden of the Society, some very good kinds of *Begonia*, such as *acuminata*, and newer ones, as *Ingramii*, a rich rosy one, and the newest of all, which was picked out of a lump of Orchids which was sent to the Garden from abroad. This is called *Rotata*; it has a short, stumpy root-stock, or soft stem, from which rise a few large leaves and very long flower-stalks, carrying a great number of pinkish flowers, a truss, as one might say; a large potful of *Cochlearia acaulis*, or Tom Thumb Violet, one of the prettiest pot-plants in the Garden, when done as they do it at Chiswick. The new Sikkim *Rhododendron glaucum* in full bloom, and the newly re-introduced *Lachenaalia aurea*; also, a beautiful bulb of the African breed; four kinds of red Indian *Azaleas*, of which *coronata* was the best colour; two forms of *Epacris miniata*, of which *splendida* was the best; the very curious *Columnnea Scheediana* and the bright-looking *Columnnea splendens*, whose flowers and form of flowering put you in mind of *Nematanthus longipes*; good specimens of *Prostranthera violacea*, *Acacia grandis*, *Boronia tetrandria*, *Chorozena elegans*, *Polygala cordata*, and *Rhyneospermum jasminoides*, on a round trellis, better than I ever saw it before; also, *Boronia polygalifolia*, which I never saw exhibited before; *Calceolaria violacea*, four feet high, and a yard in diameter, a really good-looking spring plant, which no one could take to be a *Calceolaria* from the looks; *Erica Albertus*, the yellowish Heath named after Prince Albert; and *Boronia Drummondia*, the liveliest of this lively-looking family, and the easiest of them to keep and manage, therefore the best kind for an amateur to buy for representing this pretty genus of greenhouse plants.

Mr. Veitch exhibited a new variegated *Carex*, from the East Indies; *Rhododendron jasminiflorum*, with nine full heads of its white, jasmine-like flowers, which are of good substance, and the plant is of excellent close habit. A most beautiful new *Dodecatheon*, called *vitifolia*, from California. It has a fine dark eye to the flower, a purple beak, with a yellow ring round it; the rest of the flower is lilac and pink, and seems a free bloomer. This plant deserves extensive cultivation, as it is, probably, quite hardy, making a thorough good addition to our spring flowers; also, a purplish-crimson-flowered *Fuchsia*, which bunches like the old *Fuchsia arborescens*; and a new kind of *Primula* called *mollis*, with long, upright flower-stalks, and the flowers are arranged in several whorls round each stalk: the colour of the flowers, and the whole plant, puts one in mind of the old *Cortusa Mathioli*.

The Messrs. Lee, of Hammersmith, sent several kinds of *Variegated Geraniums*, such as *Lee's Scarlet*, with a very marked white on the leaves, and a good scarlet flower; *Flower of the Day*, and others with the green varieties from which such variegations are supposed to have sported. We are left in the dark as to the real origin of our best *Variegated Geraniums*, so that we may not run in the same race with those who are lucky enough to win the day; but it has always appeared to me that the *Flower of the Day* is a sport from *Compactum*. Also *Begonia splendida*, with large, purplish leaves, and light pink flowers, with a species of *Gastrolobium*, and a cut branch of *Ribes Gordoni*, wrongfully called *Ribes Beatonii* on the tally. This is the only cross from *Ribes sanguineum* with another distinct species, which I got in 1833 or 1834; but, although I could tell a sad tale about it, yet it was never called after me. It is a desirable plant, however; and if that cross had been followed out, as I once intended, we might now exhibit *Ribes* to vie in colours with the "Gheut Azaleas."

The Messrs. Standish and Noble exhibited a tall standard plant of *Rhododendron campilocarpum*, from Sikkim, and now for the first time in profuse bloom of greenish-white bell-flowers, of about the same size as those of the Canterbury Bells; and a new upright *Gaultheria*, called *furens*, from the south of Chili, which reminds one of *Andromeda axillaris*.

There were two seedling Chinese *Azaleas*, from M. Mieliez, the well-known florist at Lisle, in France; one of them was a white, with pink blotches—very common in English seedlings; the other, a real florist kind, of good rosy tint.

Mr. Glendinning sent a most beautiful continental hybrid *Gesnera*, called *Donekläri*, with a mass, or upright spike, of tubular crimson flowers, in the shape of *Pentstemon gentianoides*, but much larger, and as waxy and shining as if they were made to order. This is by far the handsomest *Gesnera* I ever saw; and, from the large, dark purple leaves, I should say that *Discolor* was the pollen parent of it; who the mother was, goodness knows, perhaps *Polyantha*—not unlikely, at any rate. If there is to be a conservatory to the Pavilion at Aldershot, this is the first plant for it. I understand that an extensive pleasure-ground is to be "laid out" round the Pavilion in Mr. Lovel's best style, just as it ought to be.

The Messrs. Henderson, of the Wellington Road Nursery, sent a collection of Sikkim and Bhotan *Rhododendrons*, some in flower, some for the beauty of the foliage, and others for the distinct habit of the plants; on this wise, two plants in flower of *Rhododendron Edgeworthii*, one of them with very sweet flowers; *R. Nuttali*, with large, hoary leaves—a large plant of it must look much like the Loquat, from China (*Eriobotrya japonica*). *R. Hookeri* is of the same section as *Campanulatum*; *R. Boothii* is very distinct from any we know, in its present stage, and so with others of them. They also included *R. javanicum*, in full bloom. Mr. Veitch exhibited a fine cross from *Javanicum*, in June or July, at Chiswick, which may be seen in my notes in answer to a friend in Devonshire; and in further answer to him, Mr. Standish told me, at this meeting, that the new Bhotan seedlings I mentioned, at Clapton, are quite distinct from all we know from that quarter. So you see how liberal we gardeners all are. One English nurseryman will never disparage new plants because he does not possess them himself, as Mr. Rivers tells us the French rose-growers do, who never see any beauty but in their own flowers. I was glad of this, as those seedlings appeared to me very distinct, without being a good judge, at that stage.

The Rev. F. Beadon, North Stoneham, near Southampton, sent a large box full of beautiful *Camellia* blossoms, from the open air; the plants are against a south-east wall.

Messrs. Henderson, of the Pine-apple Place Nursery, sent a collection of specimens of New Holland plants, in the best style of that celebrated nursery. *Eriostemon linariifolia*, *Aotus intermedia*, *Boronia tetrandra*, alias *microphylla*, not *macrophylla*, as some erroneously spell the name—the first means very small leaves, and the latter, very large leaves; *Dillwynia pungens*, *Boronia pinnata*, and *Tetratheca ericifolia*, the finest and largest plant of it ever seen in public, and the most lady-like flower of all from New or from old Holland.

Now for the florists. I shall certainly be a florist against my will if they go on at this rate much longer. I had been just looking over Sweet's "Florists' Guide," in the library, the minute before, and when I saw the *Cinerarias*, I said, there was nought of "love's labour lost" in the old quaint florists' books after all. *Lidyard's Brilliant* is the most complete circle you ever saw in a flower. I would square the circle if I could but run away with that *Cineraria*. A large white flower,

with a light purplish-blue edge; but they changed the botany of the flower; instead of being a composite, they actually made it to belong to a widely different order—that of the old *Rotates*, where every petal slips in its edges behind the next to it all round, making a perfect circle at last. This was in a collection of six kinds from Mr. Turner, of Slough, who will turn botany itself, rather than lose a circular flower. The next *Cineraria* was *Charles Napier*, as good a blue as ever spun a yarn; *Mrs. Beecher Stowe*, purple and white; *Emperor of the French*, crimson, with a small white ring round the eye; *Rose of England*, large white, with rosy-crimson edge; and *Scottish Chieftain*, without mentioning the clan or colour. These were magnificently grown and bloomed; and a second collection from Mr. Turner, in another part of the room, were equally well done; but the kinds were not so good.

Messrs. Dobson and Son put up another collection, which was next to Sebastopoling that from Slough, and mostly of their own seedlings, as *Dobson's Attraction*, purplish crimson; *Exquisite*, white and purple; *Kate Kearney*, nearly all white; *Prince of Blues*, purple and white; and *Lady Camoys*, dressed in white and blue.

One in Mr. Turner's second bests, called *Magnum Bonum*, was the best non-florist flower among them all; a regular plenipotentiary for the front stage of a show-house.

There was a collection of twenty-four cut *Pansies* from the Messrs. Dobson; and there was a very curious plant, called *Monnina obtusifolia*, from the garden of the Society, with "knots" of dark blue, Polygala-like blossoms at the tops of the branches. The flower with a small yellow eye, and the plant looking like some *Daphne*.

FRUIT.—The best *Pine-apple* was from Mr. Jones, gardener to Lady Charlotte Schriber; the best *Black Hamburgh Grapes* were from Mr. Drummond, gardener to S. L. Stevens, Esq., Roohampton; he had, also, the best *Strauberrries*; and Her Majesty carried the palm with dessert *Pears*; twelve specimens of *Beurré Raneé*.

D. BEATON.

Kew Gardens.—Sir J. W. Hooker's report on Kew Gardens, inserted in the body of the Civil Service estimates, is always interesting, and just now, considering the attempts to shut up the gardens on Sundays worthy of especial notice. Sir James shows that the object of Her Majesty's Commission, to make these beautiful gardens and grounds a place of healthful recreation, has been attained beyond the expectations of the most sanguine. The number of visitors last year (1855) amounted to 318,818, against 339,164 in 1854, and with this exception (accounted for by the wretched weather which prevailed last spring and in the early months of last summer), the increase of visitors has been regular and progressive. From January to July the number was less by 41,844 than in the corresponding months of 1854; but in August and September the number in 1855 was 13,272 in excess over the same months in 1854, notwithstanding the attraction of the Paris Exhibition. The general conduct of visitors (the number sometimes amounting to 12,000 in one day), and especially that of the middle and lower classes, is still reported by Sir J. Hooker as most praiseworthy; and it is intimated that the grosser acts of misconduct, rudeness, pilfering, &c., are committed by "people apparently of better education and of a higher grade." Last year and during the latter part of 1854 the great benefit was conferred on the public of keeping the botanical gardens open on Sunday afternoons until sunset in summer as well as in winter (the old hour was 6 o'clock, p.m.), and "the privilege has not been abused." The cultivation of botany as a science—no longer a dry study—is much encouraged by the facilities afforded in

Kew Gardens, and no better proof can be given of the growing popularity of the science than the rapid sale of a cheap and very excellent *Illustrated Guide*, which has gone through 13 editions in the space of eight years. The plan of affixing to the plants the names, both vernacular and scientific, of the more useful kinds is adopted with much benefit. Many useful and ornamental plants (too numerous to specify) were added last year. The great event of the year was the erection of a new house for succulent plants, 200 feet by 30 feet, and 15 feet high, which has enabled Sir J. Hooker to display to advantage (and for the first time) his noble collection of medicinal aloes and euphorbias, grotesque cacti, and fibre-bearing agaves, perfect unique of its kind. The recently-formed Arboretum, or collection of hardy trees and shrubs, in the pleasure-grounds, has received considerable accessions from temperate climes, and a new nursery has been established for the rearing of trees to adorn the London parks. The hothouses and greenhouses are well stored with rare and useful plants; the palm stove was never more beautiful than now, and the growth of some of the trees and shrubs has been so rapid as to necessitate their removal from the tubs. The ferneries are singularly attractive. The "*Amherstia nobilis*," presented in 1854 by Mrs. Lawrence, was (Dec. 31) producing its flowers in great beauty; and the curious lattice leaf ("*Ouvirandra fenestralis*"), from Madagascar, and the remarkable rice paper plant of *Formosa* (from Sir J. Bowring) are also noticed in terms of admiration. The new museum of economic botany, destined to give further accommodation to the extent of 13,000 square feet of mural glazed cabinets, was in rapid progress at the date of the report, and several valuable acquisitions of vegetable products were made last year at the French Exhibition. "To say that this collection of vegetable products is unrivalled," observes Sir J. Hooker, "is to say little." The herbaria and libraries are still reported as most useful adjuncts to the gardens, of which they constitute a novel but highly important department. Sir J. Hooker regrets that the numerous conifers and the trees and shrubs from Australia and New Zealand, South Africa, and Mexico are not better provided for, as many of them are suffering, beyond recovery, from the want of suitable winter shelter. Sir James strongly urges the imperative necessity of erecting a greenhouse adapted for conifers, if a remnant of these splendid specimens is to be saved. The following were the sums expended last year upon Kew Gardens, and other public gardens and parks.—St. James's, the Green, and Hyde Parks 25,631*l.*, Kensington Gardens 2,716*l.*, Chelsea Hospital grounds 750*l.*, the Regent's Park 6,601*l.*, Victoria Park 4,860*l.*, Greenwich Park 2,287*l.*, and the Royal botanical and pleasure gardens at Kew 19,078*l.* To Richmond Park is assigned a sum of 4,622*l.* (exclusive of the Ranger's department), to Bushy Park 3,131*l.*, to Hampton-court Park and Gardens 3,651*l.*, to Holyrood Park 4,228*l.*, to the Phoenix Park 4,570*l.*, and to Kennington Park 1,573*l.*

PLANTS THAT MAY BE IN BLOOM IN APRIL.

STOVE PLANTS.

Allamanda nerifolia; *Alpinia*, most of the genus; *Aphelandra aurantiaca*; *Ardisia eronulata*; *Begonia* as last month, and more of them; *Centradenia rosea*; *Burchellia capensis*; *Cactus Aekermanii*, *Jenkensonii*, *flagelliformis*, &c.; *Combretum purpureum*; *Fanceisea* as last month from succession plants; *Gardenia* of various species; *Gesnera elongata*; *Hippeastrum anlicum*, and other species and varieties of the *Amaryllid*

group; *Impatiens latifolia*, and *latifolia alba*; *Justicia carnea*, &c.; *Phaius grandifolius* and *Wallichii*; *Passiflora alata* and *quadrangularis*; *Oldenlandia Deppiana*; *Ossæa purpurascens*; *Phlogacanthus guttatus*; *Pourretia recurvata*; *Ruellia formosa*; *Rogiera amœna*; *Rhynchospermum jasminoides*; *Renealmia grandiflora*; *Rhodostoma gardenoides*; *Rondeletia speciosa*; *Sonerila stricta*; *Sprekelia formosissima*; *Stigmaphyllon ciliatum*; *Stephanotis floribunda*; *Tabernæmontana alba*, *discolor*, and *grandiflora*.

GREENHOUSE PLANTS.

Acacia, add to last month, *Couferta*, *Dillwynifolia*, *juniperina*, *taxifolia*, &c.; *Anthocereis viscosa*; *Aotus incana*; *Arum crinitum*; *Athanasia tomentosa*; *Azaleas*, all the best kinds in great profusion; *Borouia latifolia*; *Bossiæa*, of species; *Camellias*; *Cinerarias*; *Caruatiens*; *Cyclamens*; *Callistemon phœniceum*; *Chorozema Henchmanii* and *macrophylla*; *Cytisus latifolius* and *filipes*; *Dielytra spectabilis*; *Daviesia angulata* and *juniperina*; *Dillwynia sericea*; *Diplacus glutinosus*; *Diosma rubra*; *Epacris gradiflora*, &c.; *Erica Linnæoides*, &c.; *Entaxia pungens*; *Euchilus obovata*; *Gardoquia multiflora*; *Gastrolobium speciosum*, *obovatum*; *Gompholobium angustifolium*; *Grevillea acuminata* and *longifolia*; *Habrothamnus elegans*; *Hardenbergia Comptoniana*, &c.; *Hovea ilicifolia*, *elliptica*; *Jacksonia grandiflora*; *Kennedya prostrata*, *Marryattæ*, *nigricans*; *Lachenalia tricolor*; *Lasiopetalum macrophyllum*; *Leptospermum sericeum*; *Leucadendron floridum*, *grandiflorum*, *inflexum*; *Leucopogon juniperoides*; *Mirbelia grandiflora*; *Oxalis rosea* and *Simsii*, *herbaceous*; *Oxalis* having bulbs, *cuneifolia flava*, *glabra*, *sericea*, *tencella*, &c.; *Otoptera Burchellii*; *Othouna abrotanifolia*; *Oxylobium obovatum*; *Pultenæa obtusifolia*; *Passerina grandiflora* and *ciliata*; *Primula sinensis*, single and double; *Phylla plumosa*; *Pimelia decussata*; *Pittosporum undulatum*, *variegatum*, &c.; *Platylobium Murrayanum*; *Podalyria sericea* and *olæfolia*; *Podolobium berberifolium*, *humifusum*, *trilobatum*; *Priestleya vestita*; *Protea formosa*, *ligulæfolia*, *obtusata*, *speciosa*; *Psoralea arborea*; *Pultenæa argentea*, *biloba*, *linophylla*, *oxalidifolia*, *retusa*; *Rhododendron*, *arborea* varieties; *Rochea versicolor*, *jasminca*; *Sempervivum cruentum*, *rupifragum*; *Sparaxis* and *Ixia*, many species; *Sparmannia Africana*; *Sphenostoma gracilis*; *Sprengelia incarnata*; *Statice Dicksonii*, *pseudo-Armeria*, *puberula*; *Steuochilus longifolius* and *maculatus*; *Struthiola ovata*, *virgata*; *Symplocos sericea*; *Tetradlea hirsuta* and *verticillata*; *Teucrium abutiloides*; *Trichonema celestinum*; *Tropæolum tricolorum*, *Triomphe de Gand*; *Witsenia partita*, *ramosa*, *corymbosa*; *Zichya coccinea*, *heterophylla*.

THE FORCING PIT will nearly be at a discount now; only many tender bulbs will stand well in the greenhouse after being forced into bloom. Such things as *Wallflowers* will be in full bloom that have been protected by glass; and such annuals as *Nemophila insignis* and *maculata*, and *Collinsia bicolor*, will be in fine bloom from plants sown in pots in September. *Deutzias* and *Weigelas* will also blow well without forcing if kept under glass. The *Deutzia gracilis* and *Dielytra spectabilis* would be in bloom for six weeks past, merely with the protection of a cold frame or pit in winter. The *Deutzia gracilis* does not keep long after being cut; but it is a neat ornament for the greenhouse after Christmas.

I have received several hints in the way of counsel and suggestion respecting these lists, and for which, and others that may come, I shall feel obliged, though I may not find it possible to meet the wishes of all. For instance, one says, the lists are not select enough; another, that they are too meagre, many fine plants being left out; while a third complains that little is said of what should be done with the plants when their beauty is gone; and a fourth suggests that the list is

useless without a homely description, so that the uninitiated could form some idea what sort of looking things the plants are; though this done in the shortest possible way would occupy much space, and, after all, be only a repetition of the Dictionary.

I will now shortly allude to the third suggestion respecting plants that have finished blooming.

AZALEAS.—These should have all the old flowers removed, the plants be well syringed, and be placed by themselves in a corner where they can be kept close, and a moist atmosphere about them. If they could be got under the shade of Vines that were merely grown up the rafters they would make wood very fast. Care must be taken they are quite free of Thrips and other insects. When growing freely they should receive a fresh shift, if wanted, and be kept a little shaded for a short time afterwards. By August, these forward plants will be setting their flower-buds, and after being gradually hardened off, will stand in any place out-of-doors, not facing the south, and the afternoon sun a little shaded from them. The pots should be shaded. Those plants thus assisted will come in early next season of their own accord.

ACACIAS.—Many of these will be better of being pretty well pruned back, well syringed, and kept close and moist, to encourage fresh growth. When gradually hardened, by the middle of June they may be set in a sheltered place out-of-doors, and shifting may be done any time before September, though the tender kinds had better be looked to in August.

CAMELLIAS.—If the wood is not very old, these will stand cutting and pruning freely, so as to keep the plants bushy, and the shoots near home. They should be kept by themselves in the greenhouse, with little air, plenty of the syringe, and shaded from bright sun. The best place of all for them is a forcing-house beneath the shade of Vines, with an average night temperature of 60°, and a rise of 10° to 15°, or more, during the day. This will encourage the young shoots to break freely. When two or three inches long, give more air and light, and that will arrest mere elongation of shoots, and cause the flower-buds to form at the points. The plants after that will stand in a sheltered place out-of-doors. Plants thus forwarded will begin to open their buds in a greenhouse by the middle of November, and onwards. The plants should be shifted, if they require it, before being brought out of the house; or in September, when the flower-buds are set, and getting prominent.

DAPHNES.—These should receive, as near as possible, similar treatment.

R. FISU.

(To be continued.)

ALLOTMENT FARMING.—MAY.

How pleasant and agreeable is the month of May; with its soft and balmy air vegetation is gently expanding its millions of buds in the woods and plantations, in the hedge-rows and the lanes;—each day in this delightful month gives increasing beauty to the landscape. How delightful to be situated in the country at this season, when every living thing seems to partake of the joyous influence of the sun. The birds, busy providing for the wants of their offspring; the beasts, partaking of the general joy, luxuriating in the green pastures; and even that drudge, the poor man's ass, is happy, partaking of the bounty of Nature along the grass-grown roads and lanes.

The cottager should now be busy hoeing between his various crops of vegetables, such as Onions, Carrots, Leeks, Turnips, Parsnips, Spinach, Parsley, &c., and destroying slugs and snails, by all means. It is advisable to thin the seed-beds of Cabbages, Cauliflowers, Savoy, &c., where thickest, and to prick them out, in showery weather, three or four inches apart, into other beds, to acquire strength and a stocky habit for final transplanting in June and July.

The following sowings may now be made:—Peas, Broad Beans, Borecole, Brussels Sprouts, and Celery, for late crops; Cabbages, Cauliflowers, in small quantity, Lettuce and Spinach, for successions. Dwarf Kidney Beans and Scarlet Runners, sown in pots, protected from frost in a frame, or under a hand-light, and transplanted in fine, warm weather, will bear two or three weeks sooner than the same sorts sown in the open ground. If the soil is moist they will not require water until the plants appear. For a succession they may now also be sown in the open ground. Plant out Cabbages for a succession. Love Apples against walls, or fences, and Cucumbers on ridges, as directed last month. Some attention should now be given by the cottager to his fruit-trees on walls, or fences, by removing the ill-placed and superabundant shoots with the finger and thumb, retaining a regular supply of well-placed side-shoots for training to the walls, or fences, when of sufficient length.

A few words on *watering* may be useful at this time. During the continuance of dry, easterly winds, with clear weather, it is necessary to give a supply of water to recently transplanted trees, shrubs, and vegetables, and also to seedling crops that are just making their appearance above ground; but if the seeds are in a dormant state, it is best to allow them to remain so until rain falls, as continued waterings bind the surface of the soil into a hard crust impenetrable by air, and prejudicial to the germination of seeds. This, however, where the trouble is not considered too much, may be obviated by shading from the sun, or by covering the soil with long litter, &c., so as to prevent evaporation as much as possible. Frequent waterings are not then necessary, and the soil is kept in an open, porous state, which is of some importance. When the nights are warm, seeds, &c., should be watered in the evening, so that the soil may gradually imbibe the water; but if cold nights prevail, the early part of the morning is the best time for its application. Trees, shrubs, &c., recently transplanted, should be watered, and mulched with short litter; and if drying winds continue they should be occasionally sprinkled over-head with water in the morning. Advantage should be taken of showery weather, to prick cut, transplant, and to earth-up all crops that require it. In pricking out, or transplanting, particular care should be taken to press the soil close to the roots of the plants, and, for such purpose, a trowel should be used in preference to a dibber, as with the latter the roots are either left hollow, or are crushed up together, where they never can establish themselves and grow with the same vigour as when planted with a trowel.

Vegetable Marrow.—This very useful vegetable should now be planted out on a rich piece of ground, where there is plenty of room for it to grow.

As the beauty of *flowers* is becoming more generally appreciated by the cottager, thanks to the local horticultural shows, and the diffusion of useful information through gardening periodicals; and as the season has now arrived for *planting out* in the open ground the stock of plants preserved during the winter, we would advise to begin with the Penstemons, Calceolarias, Lobelias, Verbenas; and, if frosts should occur, a few boughs may be laid over them, or stuck about the beds, which will now afford sufficient protection. To be succeeded by Scarlet Geraniums, Heliotropes, Ageratums, Fuchsias, Petunias, &c., towards the end of the month, when all danger of frost is over. For large flower-gardens, where the eye wanders over an extensive surface, the system of planting a distinct colour in each bed is preferable to any other for producing a bold and distinct expression, and a gorgeous and striking effect; but for small gardens, the mixed fashion may be introduced with advantage. The bright scarlet of *Robinson's Defiance* Verbena resting on the variegated foliage of the *Flower of the Day*, or on *Mangle's Geranium*, produces a beautiful effect. The white flowers of the *Queen*, or any other white Verbena, mixed with the scarlet of *Tom Thumb* Geranium; and the blue flowers of the *Lobelia ramosa*, resting on the Ivy-leaved Geranium, produce pleasing effects. The old Roso-scented Geranium (*Pelargonium graveolens*) mixed with *Robinson's Defiance* Verbena; and the variegated Mint (*Mentha rotundifolia variegata*) mixed with *St. Margaret's* Verbena, make very pretty beds. The system could be extended to produce a pleasing variety with various other plants.

The rooted cuttings, and the divided roots of *Dahlias*

should be potted off the early part of the month, and hardened off by degrees, to be fit for planting out in the open ground towards the end of the month, in good, loamy soil, enriched with rotten dung, to be mulched with dung, and to be liberally supplied with water during their active growth. Four main shoots will be sufficient for each plant to be tied to stout stakes; the flower-buds to be carefully thinned, the best to be allowed to remain, to be protected from sun and rain by a cap of thin canvass, or oil-cloth, fixed on a stick immediately over the flower.

Lariculus, to prolong their flowering, should be kept in a shady place, free from weeds and the Green Fly. *Ranunculus* beds will be improved by top-dressing them with very rotten cow-dung. *Pinks* may also be treated with similar compost; the number of the shoots reduced according to the strength of the plant, and those that are retained to be tied to small, neat sticks. *Carnations* to be tied up as fast as they require it; and *Tulips* may now be increased and improved by cross-breeding, taking care to choose flowers with well-formed cups and clear bottoms on both sides; just as the flower opens the anthers must be taken out, and when the flower expands, apply farina with a camel-hair brush to the stigma.

Swede Turnips should be sown about the middle of the month. The depth of drilling the seed requires more attention than is generally paid to it. In a dry season, if put in too shallow, there is always a deficiency of moisture to force the plant into rough leaf, and if drilled too deep, there is a risk of the seed not growing, or not coming up evenly. The most advisable depth is about an inch, not less. The drill is preferable to the broad-cast system of sowing, as upon this plan the Turnips, being in rows, are more easily thinned and worked with the hand-hoe. The hoeing of the Swede Turnips requires great care, always giving them plenty of room, and leaving the strongest and healthiest plants. When they are drilled on ridges, as recommended last month for Mangold Wurtzel, at about twenty-seven or twenty-eight inches apart, instead of leaving the plants even in distance for mere form, the strongest, or a master plant, should always be left if nearer; but for the last thinning the general average should not be less than from ten to fourteen inches. Also, in singling the plants of *Mangold Wurtzel* they may stand seven or eight inches apart until the leaves touch, when each alternate plant should be removed, and will be found very acceptable feeding for cattle and pigs, and the plants will finally stand at fourteen to sixteen inches apart in the rows. The first hand-hoeing, or thinning of the *Swedes* to be made as soon as they get into rough-leaf. The treading of persons, when thinning and weeding, hardens the ground, especially if these operations are performed in damp weather; therefore, the fork will be the most useful instrument to loosen it, and thus to enable the fibres to traverse freely in quest of food. The loosening of the soil should be effected some time before the leaves meet across the drills.

Slugs very frequently appear in thousands at this season, and either destroy or injure almost every thing vegetable within their reach; the most simple and effectual remedy is quick lime, which should be strewn over every part of the allotment, or garden, several nights and mornings in succession. It should be done in the morning by three or four o'clock, and at night not before nine.—

WILLIAM KEANE.

HOW TO GET ON AS A GARDENER.

I HAVE been going on progressing, perhaps as satisfactorily as I could expect, all things considered, though it is not to be believed that I am free from blunders or failures; but if I fail with seed, or a plant, the first time, I am more likely to get at the right treatment the second time, because, if I fail wholly, or in part, I search for the cause. But, however, the more I read and the more I practise, the easier it seems to manage. It is almost surprising what a difference a twelvemonth's experience will make in a person that will give his mind to the work he is called upon to perform.

I recollect reading in one of Mr. Beaton's papers, when

he was speaking of the management of flowers, that it is not the having a vast amount of knowledge that constitutes a good gardener, but the doing well to the amount of our knowledge. Now I wrote that in large letters, and pasted it up in the tool-house, so that I am not likely to lose sight of it.

I had a good many seeds last spring: of some I had the names; but then they wanted different treatment, and bloomed at different times, without doubt; but I could not tell, and to search through the different volumes of THE COTTAGE GARDENER occupied too much time; and even if I had time to do so, I was not sure it treated of the flower that I was in doubt about, and the tallies in the borders were getting rather numerous with names not certified. I saw I was a very important link deficient in the chain of gardening knowledge. I said, "What is to be done?" "Why, get THE COTTAGE GARDENERS' DICTIONARY." I did so; and I am sure I could not have a book more suitable to my wants. I have made rapid strides since I have had it, for one in my position. I consider that no one pretending to gardening should be without it. For instance, a lady buys a plant, brings it home, and hands it over to the care of her man. He sees the name, or something near it, stuck in the pot, and that is all he knows about it; and the result is, it gets wrongly treated, and the man tries to strike cuttings in the open ground, instead of in sand, under a bell-glass. The plant drops its blossoms, and goes out of existence; the lady is disappointed; blows up the nurseryman; and says it is no good to buy plants, and gives it up accordingly; whereas, if the lady, or the man, had had THE COTTAGE GARDENERS' DICTIONARY at their elbow, they could, the first thing, give it its proper name, and then its proper treatment; they would have been gratified with a continued bloom the present season, and rewarded with a generation of cuttings for the next; the lady would have praised the man for his care and thoughtfulness, and the nurseryman would have had more orders.

I see in THE COTTAGE GARDENER for April 1st an article by Mr. Robson on *Fences*, more particularly the *quickset*. I have under my own charge nearly two miles of quickset, and most of it has been planted within the last ten years, and all clipped twice annually. Now, in a good many places the quickset had died away, and I was some time before I could find out what *appeared* to me the cause—not until I had taken a wider range, and observed the hedges on the road-side wherever I went, and invariably found the same effects where the same cause existed, viz., that long, rambling brier that bears the blackberries: I do not know the proper name. I have, for some time, observed the grass on the road-side where the above brier existed; but I generally attributed it to the effects of the children trampling on the hedge to gather the fruit; but the hedges under my care, being clipped twice in the year, do not ripen any fruit, and if they did, they are out of the range of children. Now, there are three hedges in this immediate neighbourhood that have never been clipped or cut, and in all three of them the brier exists profusely, but is forced out into the ditch underneath the thorns, and not run up through them, as in the case of the hedges under my care; and in the three cases mentioned, the thorn was not the least injured by it.

I have just thrown out these few observations, thinking that perhaps some of your correspondents may be able to tell us why it is that the brier kills the thorn in hedges that are clipped, and not injuring those that are not clipped; but it being so, the safest way is to pull up all we can, as I have hitherto done, at the Midsummer clip, and cutting off close to the bank the rest.

Perhaps you can tell me the name of two very common, though very useful flowers at this season of the year. The first is the low, tufty, purple flower seen in almost every garden, and on every piece of rockwork; now in full bloom. The second is in full bloom now also, and, I should think, belonged to the Polyanthus tribe; the leaves are of a dullish-green, with light spots on them; the pips, at first, are a reddish-purple, then change to a bluish-purple. I have said thus much in case you should not be able to make out the specimens sent. The second gets too large a plant for the border in a twelvemonth. I then put them in the shrubbery, where they do well; then fill up their place with seedlings.—THE DOCTOR'S BOY.

("THE DOCTOR'S BOY'S" plants are, 1. *Aubrietia purpurea*, a very desirable rock-plant or marginal border-plant. 2. Is *Pulmonaria angustifolia*, or often called "The Bethlehem Cowslip." The brier that is fancied to injure the quickset hedge is, of course, *Rubus fruticosus*, or some of its varieties. Though this plant, after being once or twice clipped during the year, does not much injure the well-kept quickset hedge, we would cut it out of such a fence by degrees, as it is only a weedy plant to that of the quick, and were it allowed to get the upper hand of the quick, it would, no doubt, smother it, and kill it in some instances; but such ought not to be allowed to exist anywhere near properly-kept fences. They may be very well in the woods, and such-like places. No doubt there are many banks covered with these brambles that might be clothed with good herbage, or other useful produce.)

HOT-WATER APPARATUS FOR HEATING A DWELLING AND GREENHOUSE.

As requested by yourself and correspondents, I forward plans and particulars of my hot-water apparatus, mentioned in your number of the 12th of February.

With respect to the consumption of fuel, on the 7th of December last I purchased half-a-ton of Welsh (Anthracite) coals, costing 18s.; and eighteen bushels of gas coke, costing 9s.; carting, 2s.; together, £1 9s. This lasted (the fire being almost constantly alight, both day and night) until the 19th of February, being rather less than 3s. per week. The Welsh coals and coke are broken, and burnt mixed together, which I find best, and prevents the formation of clinkers, so that the furnace only requires to be cleared out about *once a week*. I am now keeping the inner greenhouse warmer than the other, to bring the Grape-vines forward, and at seven o'clock, on the 24th of February, the temperature of the several places were—Dining-room (before the ordinary fire was lighted), 55°; hall, 52°; store-room, 47°; library, 49°; greenhouse, 41°; tank end ditto, 47°; forcing case, 63°; boiler basement, 60°.

In the autumn I took up a considerable quantity of *Tom Thumb* and other Scarlet Geraniums, and, though contrary to Mr. D. Beaton's plan, cut them down close, and also Scarlet Salvias (*Fulgens*), packing them close in a border under the forcing. They threw out numerous young shoots. I potted them, and they did well, their place being supplied by Rhubarb roots. The boiler basement is also well calculated for forcing these and other roots. I have now in blossom Camellias, Azaleas, Lilies of the Valley, Roses, Primulas, *Deutzia gracilis*, *Cytisus*, *Hyalcinthus*, *Narcissus*, &c.; and in the forcing-case I am bringing on Cucumber-plants, with some of the more tender Ferns.—E. COPLAND, *Bellefield, Chelmsford*.

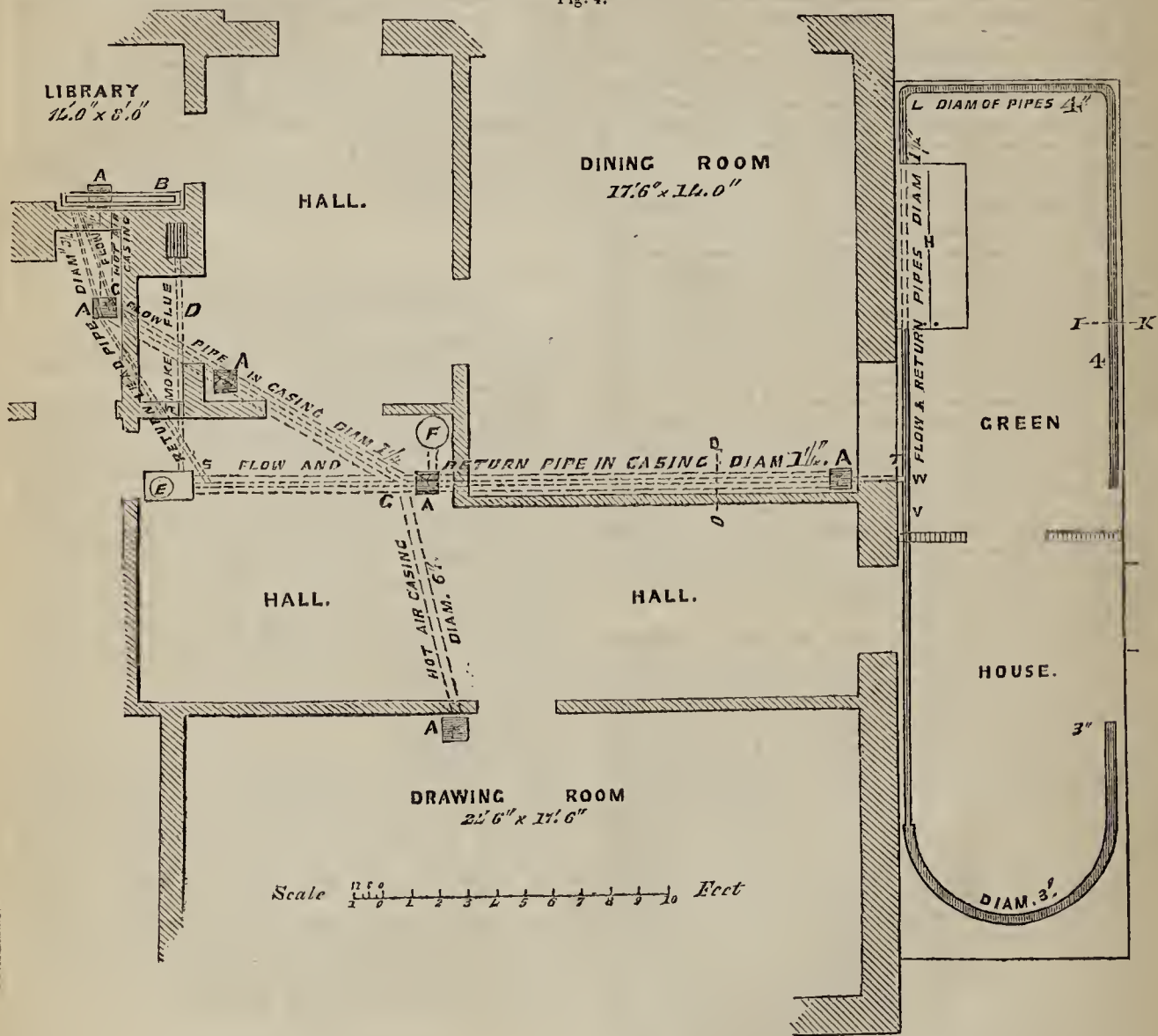
EXPLANATION OF PLAN.—Fig. 4.

The water-pipes from the boiler, E, to the greenhouse, are laid with a slight ascent, and are laid about two feet below the level of the water in the tanks, B and H, which have loose covers. There are six ventilators in the floor, as marked A; a flat air-pipe, also, leads from the boiler-case, E, communicating with the ventilators, A, in the store-room and library; but, for the sake of simplification, this is not shown in the Plan, nor an external casing to the smoke-flue, to collect the hot air therefrom, connected with the *same* ventilators. The secondary inner forcing-case, N, is floored, over the tank, with loose inch boards, on which the pots stand. The smaller pipes are connected by solid *galvanized* India-rubber tubing, tied on, and are quite water-tight. Stop-cocks are placed at R and S, so that those portions may be shut off at pleasure. There is also a stop-cock in the flow-pipe at T, to cut off the circulation in the inner greenhouse (in which Grapes are grown), if desired, and also another stop-cock at V, to stop the circulation in the other end of the greenhouse: by this arrangement either part may be used separately. There is likewise a connection between the flow-and-return pipes at W, that, when the heat is merely required for the dwelling-house, the water circulates between that point and the boiler without going round

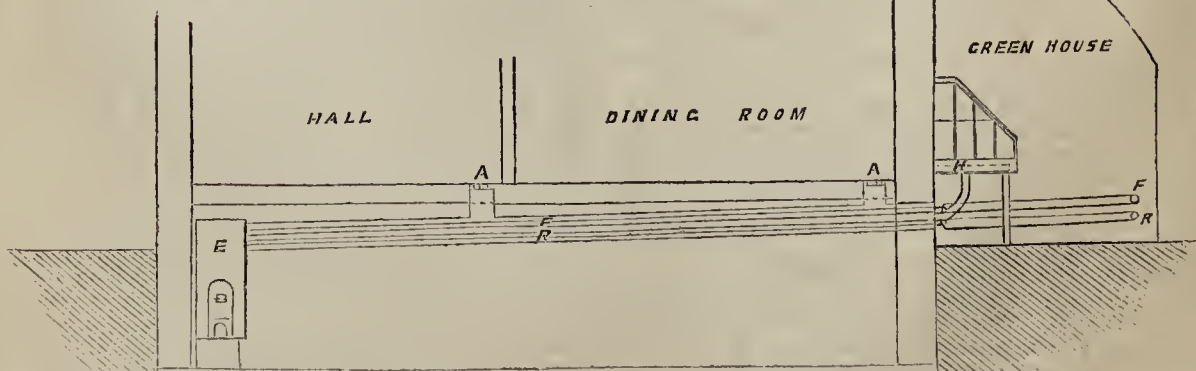
either greenhouse at all. It should be observed, that the greenhouse has a curvilinear iron roof, glazed with small panes, under the old system, and that the temperature would have been higher than what was stated if it were not for the free admission of air under the numerous laps. Air-pipes are inserted at the highest points of the larger iron

pipes, which rise above the level of the water in the two tanks. The rooms are ten feet high—the hall considerably more. The double-tube quicksilver regulator is attached to the smoke-pipe at D, and works a valve inside, so that the draught is adjusted at pleasure. The smoke-pipe leads into a common brick chimney-flue.

Fig. 4.

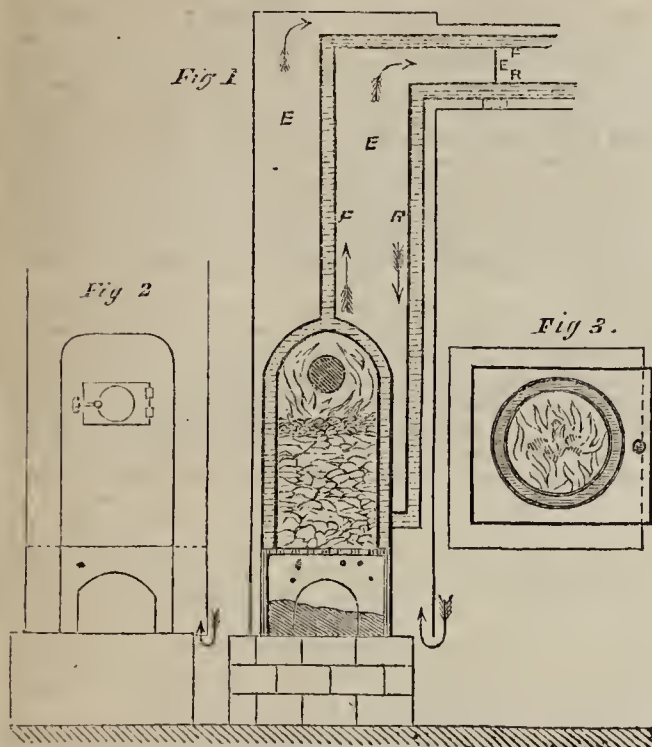


HORIZONTAL SECTION THROUGH E.W. (See Fig. 4.)



BOILER.

Vertical section of copper boiler in galvanised iron casing, with flow-and-return pipes cased.

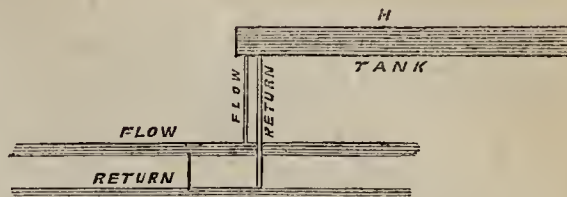


Scale $\frac{1}{4}$ " to 1'.0".

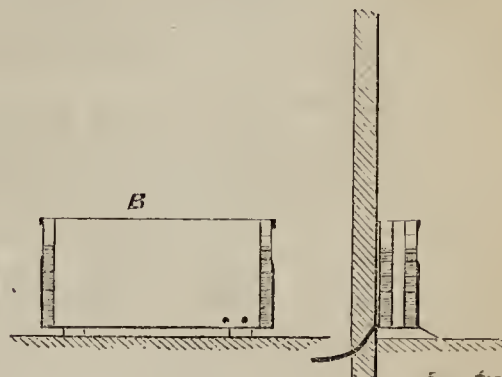
Fig. 2.
Elevation of casing
showing hole for
coals.

Fig. 1.
E. Hot air casing.
F. Flow-pipe.
R. Return-pipe.

Fig. 3.
Horizontal section
through centre of
boiler.



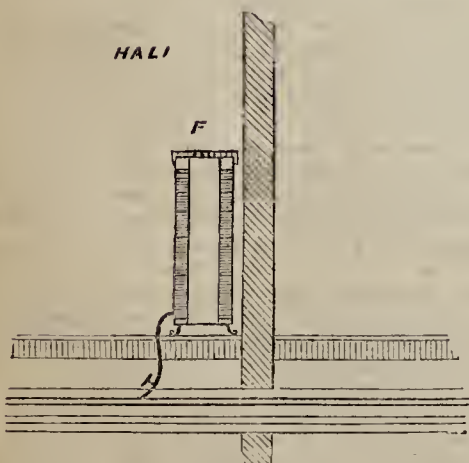
Elevation of water-tank in inner greenhouse (H.) used for heating a secondary inner forcing case, showing connection with flow-and-return pipes.—Scale $\frac{1}{4}$ ".



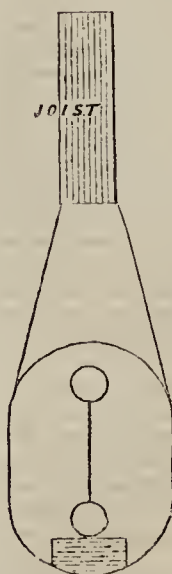
Sections of hot-water-tank in library (H.).

Transverse.

Scale $\frac{1}{4}$ ".

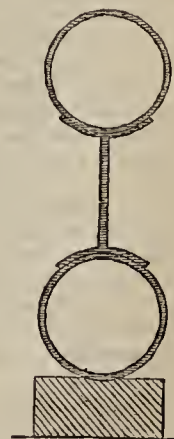


Section of expansion cylinder (V), and means of supply. Scale $\frac{1}{4}$ " to 1 foot.



Vertical section through O---P, showing hot-air casing, containing flow-and-return pipes, suspended from floor joist.

Scale $\frac{1}{8}$ " to 1".



Vertical section through I---K, showing flow-and-return pipes. Scale to $\frac{1}{8}$ " to 1".

NOTES FROM PARIS.

THE *Revue* of the 1st inst. contains a notice, by Gustavé Heuzé, of *Abies Cilicia*, stated to have been discovered in the summer of 1853 by M. Kotsehy in the valley of Gousguta, on Mount Taurus, in Cilicia (Asia Minor). I can scarcely suppose that this species has not been at least mentioned in English botanical works; but as it appears to be of recent introduction, I may just transcribe one or two of the particulars given by M. Heuzé, taking account, however, of the fact, that he has given no authority for the name. *Abies Cilicia* is distinguished by its pyramidal habit of growth, and it attains a height of nearly 120 feet: its cones are fully seven inches long and two inches in diameter; the leaves are said to be silver-coloured, a property which gives a singularly agreeable aspect to the whole tree, which, besides, when loaded with its long, light brown cones, looks like an immense candelabrum. A branch with several cones was lately sent from Cilicia to M. Vilmorin with a quantity of seed.

According to M. Tehihatcheff, of Cilicia, the axes of the cones are persistent after the fall of the scales, and then the general aspect of the tree is greatly changed, if not improved. The plants begin to bear cones when they are about ten years old.

M. Allard has a few observations on two varieties of Turnip, which he recommends to the notice of kitchen-gardeners, and he states, with reason, that French gardens are not so well stocked with good sorts of Turnips as they ought to be. The two varieties figured are the *Chou-rave blanc* and *Chou-rave violet hatif de Vienne*. These are recommended for their earliness and tenderness.

M. Du Breuil, always busy in his own particular province, has an interesting paper on the most economical and expeditious mode of training fruit-trees; and he remarks, that the opening of railways throughout France is being followed by the best results with respect to the cultivation of table fruits; for fruit-growers are now beginning to reap the benefit of a ready conveyance to market. Never has there been a time when so many fruit-trees were planted, and never have cultivators been so much occupied with the raising of new and improved varieties. But one point has hitherto been too much overlooked, that is, the economical side of the question. Fruit-growers have racked their brains to discover new forms of training the trees; but all this only demonstrates that, with time and intelligence, the branches may be made to assume the most varied and the most whimsical forms. Enough of importance is not attached to those conditions to which all the others ought to be subservient, namely, that the branches of fruit-trees should take that form which involves the least delay, the least care, and the least space, compatible with the greatest amount of fertility; or, in other terms, such a form as will give the greatest profit with the least outlay.

The forms generally adopted, says M. Du Breuil, for Pears *en espalier* of a certain height, are such as require from sixteen to eighteen years before they quite cover the surface allotted to them, separately, that is, from about sixteen or eighteen square yards to each. It is too long to wait for the maximum product of these trees; for, during that time, the interest of the price of the soil, the construction of the wall, and the expense of keeping up, are only half paid. The form proposed is called "Cordon oblique Simple," which M. Du Breuil takes the credit of first introducing to notice. He recommends the young trees to be trained either in the open ground, or against walls, as single branches, the whole length from bottom to top, and in a sloping direction. But in order to cover the angles at the ends of the wall, or trellis, the trees at the extremities should be allowed to grow with several branches. All the others are single stems, each having its own stick sloping side-ways to be trained to.

By this new mode of training, says M. Du Breuil, a maximum crop may be obtained about the fifth year; while the old arrangement of the trees requires from sixteen to eighteen years. It is also so simple that the most inexperienced can understand it, and it has the great advantage of enabling any person to grow a variety of sorts on a narrow surface. Another advantage is, that all accidental vacancies may be speedily filled up.

The trees are planted about fifteen inches apart, and most kinds of fruit-bearing trees may be trained in this form; though it is chiefly adapted for Pears, Apples, Cherries, Apricots, and Plums, to be grown against a wall from six to eight feet high.

Among the notices of French Societies there are a few items worth mentioning. The Government is making the most laudable endeavours to stimulate the people in the provinces, not only with respect to horticulture, but agriculture, and everything else that can in any way develop the vast resources of the country, and occupy hands and heads that would otherwise be idle. As for agriculture in particular, except the question of peace or war, no subject receives more attention here at present. The press teems with articles on new modes of farming, on machinery, drainage, improvement of stock, the organization of Societies, and the formation of schools and colleges for the training of young farmers.

But to return to the *Horticultural Societies*. I may observe, that the Préfet of the Loiret has presented the Society at Orleans with the sum of 300 francs (£12) to be given in prizes to village schoolmasters who shall be found to have the best-kept gardens, and whose pupils show the greatest theoretical and practical knowledge of horticulture. In the Society's programme there is a special clause bearing on this point, where it is stated, that besides the medal, a work on horticulture, or a sum of money for the purchase of works or implements, will be given to those masters who are found to do most for the horticultural advancement of the young people under their direction. It may be said, I think, on our side of the channel, "they manage these things better in France." But it must be recollected, that this same France, though blessed with a soil and climate sufficient, under proper management, for the supply of fruit and vegetables to all the nations of the west, is yet, at least, fifty years behind with respect to cultivation.

The spring show of the Imperial and Central Society will be held at Paris in the first fortnight of May, and that of the autumn, in the first fortnight of September. The particular place of exhibition is not yet decided on; but the Society have made arrangements to insure a grand display during the three or four days of each show. Everything relating to horticulture will be admissible. Examining committees will visit such products or crops as cannot be conveyed to the place of exhibition. The authors of new works on horticulture are also invited to compete for prizes. Following the example given by the President of the Commissioners of the Great Industrial Exhibition, the Society will award prizes to working gardeners, distinguished for good conduct, professional attainments, and the good services they may have rendered to their employers.

During the Great Exhibition of last year, the *Australian Commissioners*—Messrs. MacArthur and Bousfield—were requested by the Society of Acclimation to give some information respecting the principal vegetable productions of that rich and extensive colony. The request was promptly complied with, and an interesting paper has been published, but it is too long to send you at present.

Except in the speech of the Minister of Agriculture, on the occasion of the distribution of prizes awarded to the exhibitors of the Horticultural Exhibition, and which is given in your number for March 4, Vol. xv., page 414, I have till now seen no notice of the death of *M. Pescatore*, whose name has been prominently connected with the culture of Orchids for some years. In the last number of the *Revue Horticole*, one or two particulars of him are furnished by Gustavé Heuzé, who is, by-the-by, "Professeur à l'Ecole Impériale de Grignon." From this notice, we learn that M. Pescatore died on the 9th of last December. He was born on the 10th of March, 1793, at Luxembourg, in the Netherlands. At the age of sixteen he enlisted in the 4th Hussars, of Chamborand, and served in Spain for five years under General Suchet. Returning to his native town, he became a banker a few years subsequently. In 1834, he left his native country, came to reside in France, and had himself naturalized. In 1842, he bought the ancient manor of Celle-Saint-Cloud, to which he became much attached. Six months ago, says his biographer, his friends but little thought that death would take him so soon from among them, for a constitution, apparently strong and vigorous,

seemed still to promise him many long and happy years. M. Pescatore was much esteemed by all who had the happiness of knowing him. He possessed a remarkable taste for the beautiful in art and nature. Among plants, he admired those having the most graceful habit or foliage, and the richest, chastest colours. He had formed one of the most extensive collections of Orchids known in this quarter. The *Pescatorea*, an album of singular beauty in point of execution, was published at his expense, under the direction of MM. Linden and Luddemann; the latter was M. Pescatore's *Chef des Culture*. But among all the riches of art and nature, which he collected at great expense to embellish his house and grounds, M. Pescatore was always simple and affable in his intercourse with gardeners.

His remains were followed to the grave by the whole population of the place, and a funeral oration, as is the custom here, was delivered by M. Bernard, of Rennes, in the name of the different Societies of which M. Pescatore was a member.

We continue to have beautiful weather, though the wind is cold. On the 13th, it snowed all day, and I do not recollect seeing larger flakes, even in the Highlands. The 14th was also snowy. But since the memorable 16th, which was ushered in with 101 guns, it has been fine, and the plant and flower markets are at present, as they have been for two weeks, at least, in wonderful activity.—P. F. KEIR.

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

(Continued from page 18.)

NO. IV.

THE PARK.—THE PADDOCK.

UNDER these heads I include those parts of an estate which are in immediate connection with, or which are intended to be seen from, the pleasure and flower-gardens, or from the private road to the house. They may consist merely of an acre or two, as the paddock of a suburban residence, or contain many acres as the park of a large villa. In either case, such grounds are laid down in grass, and occasionally grazed by cattle.

Without presenting that high degree of keeping so indispensable in the grounds immediately contiguous to a residence, the aspect of those we are now considering should, nevertheless, be very far removed from the wildness of appearance peculiar to uncultivated nature; they should bear unmistakable evidence of being subject to the hand of man—the luxuriance of nature must be directed, and her wildness restrained; but the accomplishment of this need never detract from that cheerful style of picturesque beauty so appropriate in a well-kept park. There should be the stamp of elegance—a polish, so to speak, upon the whole aspect of the scenery. The principal woods should be rich and massive, the minor groups of trees distributed and combined in the general whole, and the intervening lawns ample and undulating; and if water can be introduced appropriately, every other beauty will be heightened ten-fold. And if to these are added those indispensable adjuncts to cheerful landscape scenery—cattle and sheep—little will remain to be desired.

It cannot, however, be denied, that a nicely-arranged and well-kept park is the exception to the rule. Many of the items in the sum total of mismanagement, bearing as they do on agriculture, I must refrain from noticing here, reserving for comment only such as relate to the scenery and general features.

Among these, the *carriage-drive* is an important one. It is not often, at least when the park is of any extent, that it is otherwise than ill-kept and untidy in the superlative degree; and the subordinate roads are scarcely superior to the neighbouring lanes. Now, the principal entrance road should always be much superior, in every way, to the public road from which it branches. From the entrance-gate to the front-door of the residence it should be well defined in its outline and very neat in its appearance; and not, as in the numerous instances one meets with, merely a line of gravel, covered with weeds and rubbish, objectionable in

itself, and a disgrace to everything about it. Necessity demands a good road, and neatness should have it in keeping. As to the subordinate roads, which, even in a park of limited extent, are generally necessary—often indispensable—they should be sufficiently cared for to be readily distinguished from mere cart roads leading from one field to another on the farm.

In alluding to the farm, it may be as well to observe here, that wherever a complete park-like aspect is to be preserved, land which is under the plough must never mingle in the scenery as seen from the house; for the park and the farm are, as regards scenery, entirely antagonistic, and can never be combined without destroying the most essential features of the former. Good arrangement and judicious planting will always isolate the farm from the park, at least from the principal points of view, and very much depends on this being effectually accomplished.

The subject, however, which demands the principal share of attention in the park are the *plantations*, both with respect to their usefulness and agreeable effect. The belt and the clump, from being merely useful and necessary aids in creating or embellishing the scenery of an estate, have come to be regarded, in a great measure, as the end rather than the means. In fact, their original uses seem to have been lost sight of altogether by many; and it is to this circumstance alone that much of the ill arrangement one meets with in artificially-created scenery may be attributed. The origin of the clump and the belt, undoubtedly, may be presumed to have arisen from the desire to facilitate the growth of certain trees, by affording shelter in planting others around them as nurses. For as the permanent trees became established, the nurses could be progressively removed; and as the effect intended to be produced became gradually apparent, all traces of the foster trees could be destroyed, and the masses, groups, and single trees composing the scenery alone remain. Such, in fact, is the result for which clumps and belts of trees should be employed. They must never be considered as objects for attainment in themselves; though misapprehension of their legitimate uses, or indifference or neglect may have, in numberless instances, allowed them to remain as blots upon the landscape till no art can effect in them any change for the better.

Let us endeavour to ascertain the means by which the landscape gardener renders these very useful aids subservient to his purpose.

We will suppose it to be found necessary to plant in a given locality, both for concealment and ornament, and that the artist (for in this case he should be one, and something more) under whose directions it is to be effected has made himself acquainted, as far as possible, with what is to be accomplished, the nature of the soil, and other local peculiarities of the situation, which are likely to influence his labours. Having decided upon the kinds of trees to be employed, he will mentally arrange them in groups and masses, which will at once combine to form pleasing pictures, and effect the concealment aimed at. In fact, he will realize in imagination the wished-for results of his labours, and then, at least so far as the materials are concerned will enable him, he will endeavour to accomplish them in reality. And he will, perhaps, for his own guidance, as well as for the gratification of his employer, give a tangible form on paper to these pictures which he hopes to produce in more enduring materials. Now, having, of course, a full knowledge of the capabilities of the trees he is about to employ, he directs certain spaces of ground to be prepared in a proper manner, and in such forms as will most conveniently admit of the erection of fences for the protection of the young trees. Here he will not only plant those which alone are ultimately to remain, but he will introduce others amongst them as nurses, to be, however, removed whenever they encroach upon or impede the progress of the legitimate occupants.

Now, it is evident that plantations made upon such principles will, for some years, at least, require constant attention, either under the immediate direction of their original designer, or from some one perfectly acquainted with his views, or the effects intended to be produced can never be perfectly realized; and judging from the many overgrown and shapeless clumps and meagre belts of trees one meets with in all parts of the country, those effects very rarely are

realized. But while the principles I have alluded to are those which the professional landscape gardener would recognize, and practically apply, it must not be forgotten, that very many plantations, whether intended solely for ornament, or otherwise, are not only not made under the direction of a professional man, but are designed and planted without reference to any principles whatever. A certain object has to be hidden, or a group of trees planted in some open space, and the accomplishment of either is effected by mingling together the numerous discordant kinds of trees, and allowing them to grow up in a mass, damaging each other individually, and forming together a lumpish deformity which the growth of each successive year only augments.

Wherever ornament in plantations is the object sought, indiscriminate planting, *i.e.* mixing together numerous kinds of trees without reference to their individual character, should never be adopted. Sometimes it is found desirable to plant large tracts of land for the purpose of creating rich masses of wood in view from a residence, or from some prominent part of the grounds; but such can never be satisfactorily accomplished by planting together indiscriminately deciduous and evergreen trees, and such as are otherwise discordant in the styles of growth. However well such may succeed in a cultural point of view, the result, as regards scenic effect, can never be wholly satisfactory. The truth of this will be evident on a little observation. The noblest and most imposing masses in natural woods are individually composed of but one kind of tree, or of such different kinds of trees as assimilate in character, and which, of course, combine well together in the mass. And if in art a little effect is desired, similar means must be adopted for its accomplishment.—G. LOVELL, *Landscape Gardener, Bagshot.*
(To be continued.)

SEASONABLE NOTES ON BEES.

NO. I.

FEEDING.—When gooseberries and currants are in bloom, bees are considered safe, and require no feeding; but weak stocks must be kept warm and dry, by some sort of extra covering, to increase the warmth in the hives, and to enable the bees to rear their brood, and so fill up the places of the old ones which die off. Bees are short-lived, and there are few, or none, bred in weak hives during the winter. Weak stocks often gradually perish after being fed with great care. The want of fresh pollen is one cause of this, and it cannot be supplied by feeding. The weak state of bees causes them to crowd together in cold weather, leaving the greater part of the combs unoccupied, by which the pollen, or bee-bread, turns mouldy, and unfit for the larvæ to feed upon. This leads to an unjust charge often made against the bees, of storing up an unnecessary quantity of pollen. Weak hives may be known by weight, or inspecting the combs; but it is a good sign when bees leave them quickly, and return with pollen on their thighs. The yellow Crocus and Tree Box are the first to afford them a supply. No extra room should be given them at this season, till the bees have covered the greater part of their combs, in order to promote the growth of the young bees, on which the future strength of the colony must depend, on whatever plan they are kept. This important point will be noticed in our next.—J. WIGHTON, *Cossey Hall Gardens.*

QUERIES AND ANSWERS.

GARDENING.

COLLECTION OF PELARGONIUMS.

"I have the following, but am in want of a dozen more good ones (not 31s. 6d. apiece); would you be good enough to give a list?—Phaeton, Wonderful, Optimum, Cloth of Gold, Carlos, Barilots, Achilles, Governor General, Luey, Magnet, Mochanum, Rowena, Sanspariel, Topsy, Virginia, Zaria.—L. FIXINGS."

[Your Pelargoniums are all good, and as you do not wish

to go to the expense of new ones, you may add the following. It seems you do not care for the fancy varieties, yet we think them very beautiful, and worth growing.

1. *Conqueror* (Beck's).—Crimson-scarlet; rich maroon spot on upper petals; margined with crimson; fine form.

2. *Colonel of the Buffs*.—Bright orange.

3. *Eva*.—Light rose; white centre.

4. *Frances* (Hoyle).—Dark top petals; lilac-rose bottom; white centre; good.

5. *Firebrand* (Hoyle).—Very bright orange-scarlet; fine form.

6. *Lord Raglan*.—Fiery-scarlet; large trusses; very good.

7. *Lady Bird* (Foster).—Black top petals; white and mulberry-stained lower petals; very striking.

8. *Una* (Hocken).—White, with a carmine spot; large truss, and free bloomer.

9. *Vesper* (Cant).—A clear white ground, with fine spots, like *Sanspariel*, but better.

10. *Wonderful* (Hoyle).—Large, well-formed, white centre; very dark spot; a very good variety.

11. *Yerda* (Hoyle).—Very large; lower petals lilac-rose; dark maroon top, edged with rose.

12. *Zoe* (Hoyle).—White centre; delicate, clear, orange-pink; maroon spot, edged with orange; very distinct.

You will see a longer list in another portion of our pages to-day.]

FERNS.—WARDIAN CASES.

"I have a *Cheilanthes lendigera* in a Wardian Case, but as soon as the fronds grow three or four inches high they drop over, as if they were nipped about an inch from the ground. Would you say what is the cause of this? Also, would you give a list of British and foreign Ferns thus?—*Asplenium marinum*, moist; *A. fontanum*, dry; *A. lanceolatum*, damp. If you would be so kind as to give a list this way, it would be a great assistance to very many of your subscribers who are fond of these plants, but cannot succeed in growing them in a fresh and healthy state, not knowing, from the ordinary description, how to grow them well. You have never yet given your subscribers a good account and directions how to manage *Wardian Cases*, and there are very many of your old subscribers who have those handsome miniature greenhouses, but cannot grow plants in them as they would wish, for want of directions and experience; and many of these subscribers have not, and cannot afford, a noble greenhouse, and, therefore, think you might, without setting yourself against these Cases, tell your subscribers how to make the best of, to you, a bad case, but to them a good and very amusing one, and, without this, they would have to live from one week's end to another without seeing a bit of green, or a living plant. I have many times wished I could show you my Wardian Case, when, I am sure, I could show you plants grown in them equal to those grown in your favourite greenhouses.—J. FERN."

[*Cheilanthes lendigera* is a native of the West Indies; consequently, too tender for a Wardian Case, even if that is placed in a warm room. Your young fronds perish for want of heat; and, besides that, the leaves are so delicate, and covered with a minute downiness, that the close, damp atmosphere of your Case causes a mouldiness to grow on them, which is fatal to such fronds. The best kinds of Ferns for Wardian Cases are such as have smooth, glossy leaves.

With respect to an arrangement of Ferns according to the moisture or dryness they require, if you had read all Mr. Appleby's papers, and all that have since appeared on the subject, you would have perceived that the description of their native habitat gives that information you require more fully than by your plan. Then you think we neglect Wardian Cases. This we cannot confess to, for we have frequently commended them, only warning our readers against expecting too much from them, for we have proved, repeatedly, that there are very few plants, excepting Ferns, that will live more than a few weeks in such a confined space. We should be glad, and really much obliged to you, if you would send us your management of your Case, mentioning the plants you say you grow so well, the soil they grow in, the water you give them, and the air you allow them, and any other point of culture you have

adopted. The *Zebra Paroquet*, mentioned by you, is managed the same as the *Budgarce-gar*, as mentioned by us recently. Meal-worms are good food for Golden Pheasants, but they must not have many of them. A vegetable diet must predominate.]

TREATMENT OF A WEAK HIVE.

"A SUBSCRIBER had a strong swarm of bees (a July swarm) in a wooden hive all the winter, and left them strong in January; but not being at home, the feeding was neglected, and on examination, last week, it was discovered that very few remained alive. Those few have been removed into a room in the dwelling-house, and are well fed with beer and sugar, as the owner is anxious to keep them alive. How soon should they be put out into the open air? and is there any hope that they will survive and fill the hive, which is quite full of comb? The owner is afraid to keep them out, lest a strong hive in the same garden should kill the bees in the weak one. There are not more than a couple of hundred left, if so many."

[Give your bees liberty as far from the other strong hive as possible. Feed them a little longer outside the hive; if strange bees attack the food, place it inside; close the entrance, except a little for air. They are so weak, however, that there are not enough of bees to collect pollen, nor nurse the brood to fill the places of the old ones dying off. We doubt your success; at best, the colony must be weak, and not so good as a fresh swarm put into your hive containing the combs.—J. W.]

PEACHES IN A GREENHOUSE FALLING.

"I have a Peach-tree at the back wall in my greenhouse. It bloomed profusely, and set well. The fruit is now the size of a small nut, and is fast dropping off. I had previously thinned to a great extent, perhaps too soon. Now, I am not likely to have above half a crop. The border has been kept pretty moist. Is that the cause? The temperature has also been kept pretty high, but with plenty of ventilation. I have Vines trained rod-fashion up every other rafter.—J. S. L."

[If the stage in the greenhouse is at all high, so as to shade the back wall much, the wood would not be sufficiently ripened. You do not say what the temperature was. If averaging more than from 55° to 60° at night, the dropping might take place in consequence of that and of the imperfect ripening of the wood. Unless the greenhouse stage shades the Peach, the Vines up every other rafter would do little injury. If the soil was very wet and cloggy—it would help—put the points of a fork through it. Very likely you will have very fine fruit, and, as the fruit swells, there may be more than you expect. Your thinning early would have prevented the fruit falling rather than otherwise.]

CAMELLIAS IN A VINERY.

"Will you tell me if I can grow Camellias in a Vinery planted this spring? The Vinery has a very steep, pitched roof, and large squares of glass, not of rough plate, and the question, with me, is, whether I must shade or not. The buds have dropped off from the greatest part of the the Camellias in the conservatory just before expanding. It is a ridge-and-furrow joining the house, and facing the south. It is a very bleak situation, and has rough plate glass on the top. Front and end the same as the Vinery.—A DURHAMITE."

[Camellias prefer a little shade when growing, though they do well in an open house if far enough from the glass, say three or four feet. After the present year, you will have plenty of shade in your Vinery. The best Camellias we ever saw for foliage and flower were planted out, and in pots, plunged in a bed, but a long way from the glass, and unshaded. The steep pitch of your roof fits it better for early and late than for summer forcing, and the steeper it is the less direct will the sun's rays strike upon the plants in summer. You do not give the length of the conservatory;

if more than twenty-five feet long, though you could open both ends at the apex, and give air at front, you should have, at least, one moderate-sized ventilator in the centre. Unless there are peculiar circumstances, we would prefer the ventilators at the back; but for a short house it is quite possible to give air enough at the two ends, at the ridge point, though we do not like it so well. An opening under each furrow, or every other furrow, at the back would be sufficient. We have no fault to find with plunging the pots in a bed, if all the beds are so done. It gives a more natural finished appearance, and the roots are subject to fewer changes. See, however, that the drainage is not clogged; leave an open space beneath each pot. The shading of the front is a matter of convenience, and pounds, shillings, and pence. We shade with cloth very little. Plants get used to the light, and, in extreme cases, a daubing of size, with the least whitening mixed with it, is easily given.]

BERBERIS ASIATICA AS A FENCE PLANT.

"I should feel obliged by your stating if *Berberis Asiatica*, or *Kushmue Berberry*, makes a fence that would keep back cattle generally; how old, and what size should the plants be when the hedge is planted; whether it should be a double row or single row of plants; how long, generally speaking, would it be before it made an average fence not requiring protection; and whether it will do to plant now, or must I wait till October?—W. A."

[We have more than once said that a fence of the Asiatic Berberry is the best that can be against a charge of cavalry, if once established on light soil. We are not sure how it would answer on strong, clay land, or on wet, heavy soils, and we should be obliged by such information from any one, derived from the actual growth, and the time the plants required to make a fence size, whether as fence or single plants. We vouch for it to be the best hedger plant we have on sandy, gravelly, and chalky soils. If you plant it in single rows, the plants one foot apart, and from two to three feet high at the time of planting, in six years you will have such a hedge that no colt, or steer, can face, or get over; as to rabbits, hares, or birds, getting through the bottom of such a hedge, it is entirely out of the question. This *Berberis* is so given to suckering, that the bottom is always the closest part of the hedge. After the plants rise to eight or ten feet, they almost cease growing upwards; so that if a hedge of it is neglected for years, it would not encumber the ground like huge Holly bushes and May Thorns. We had the plants ten feet high, in seven years, from the seed; but that was singly, on the pleasure ground. We made pretty low or half standards of them, with stems as thick as a man's wrist next the ground, within ten years from the seed. All the gardening newspapers and periodicals have recommended hedges of this Berberry bush, but we are not aware of any nursery where a single plant of it is on sale with a view to hedge-making. It is now too late to plant for hedges, or for any other purpose.]

TO CORRESPONDENTS.

WORK ON KITCHEN GARDENING (*Stick in the Mud*).—Such a work as you require will be published next month, among other "Manuals for the Many."

FIBRES FROM VINE JOINTS (*A. T.*).—Such developments are usually caused by the air of the house being kept too moist, as well as too warm. It rarely occurs in any but very vigorous Vines.

LINUM MONOGYNUM (*Linda*).—It is a perennial.

ALDERNEY COWS.—*An Old Subscriber* wishes to know if these cows "would yield milk as well in the extreme north of Scotland as in their native islands?" We shall be much obliged by information on this point. We use *Neighbour's Cottage Hive* and *Payne's Cottager's Hive*. Write to Messrs. Deane, Dray, and Co., for drawings, &c., of their Churns; they are all good, and you can select.

WIREWORMS (*Constant Reader*).—The wireworm is an ugly customer. We have driven them from Carrot ground by sprinkling it with gas-water, or even throwing some tar thinly with a brush several times over it during the winter. They must be caught by every means. Carrots, Parsnips, and Potatoes, cut up into slices, and inserted in the ground, and examined every day; a small stick inserted in the slice will show where it is. We have taken a score out of a piece of Carrot. The age of seeds and growing depends greatly on how they are kept. If dry and secure from air they will keep a long time. There is hardly anything can be added to what is generally known on this subject. We hope soon to have *Bees* placed under the care of a competent correspondent.

INK FOR ZINC LABELS (W. C.).—We have published this three or four times. You will find it in No. 287, which you can have from the office, if you enclose four postage stamps with your direction. You can have No. 363 in the same way. You can grow Cucumbers very well in your greenhouse.

NAMES OF FERNS (E. M. I.).—Your Ferns are as follows:—No. 1. *Aspidium filix-mas*. 2. *Blechnum boreale*. 3. Is too imperfect to be certainly recognized. We judge it to be a fragment of *Asplenium bulbiferum*. It much resembles that plant in a small state. (*A Constant Reader of THE COTTAGE GARDENER*).—Yours is the common *Polypody* (*Polypodium vulgare*), one of the most ornamental of our British Ferns. It will flourish in almost any soil or situation, but delights in a soil composed of two-thirds peat and one-third loam. In this it can soon be established anywhere, either as a pot plant, or the greenhouse; the rockery, or in the common border.

FRUIT DEALER (A Constant Reader, Exeter).—Messrs. Webber and Co., Covecut Garden, London.

WORKS ON GARDENING (Chickweed).—Buy *The Cottage Gardeners' Dictionary*, now publishing in weekly numbers and monthly parts; and buy the *Manuals for the Many* as they appear. You will then have all the information you mention. *Greenhouses for the Many*, in that series of Manuals, will exactly meet one of your wants.

STRAWBERRIES (An Old Subscriber).—Keen's Seedling, Hooper's Seedling, Count de Paris, British Queen, and Elton, are all excellent, and give successional crops.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close April 30th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray. **HULL AND EAST RIDING.** At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

PARIS. May 23rd to June 7th. Sec., M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

PRESBOT. July 3rd. Sec., Mr. J. F. Ollard, Prescot. Entries close June 21st.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

TRIMMING.

ALTHOUGH to some of the readers of our periodical it may be necessary, at the onset, to define what is actually meant by the very expressive word that heads our present essay, the poultry amateur of anything like extended experience will at once recognise the signification of this commonly used appellation. "Trimming" is an admittedly very curt, but at the same time unusually descriptive, designation of instances where objectionable feathers on poultry designed for exhibition have been carefully removed—either in part or altogether—prior to sending them for competition. This is done in the hope of obtaining a better position among their rivals than would have been the case had they been forwarded without their plumage being thus tampered with, by surreptitiously removing objectionable feathers to prevent them being an eyesore in the way of obtaining the favour of the judges who have to award the premiums of the exhibition. Nothing connected with our poultry shows has caused more acrimonious feelings among exhibitors, or given more trouble to both judges and committees, than the unjust practice we have alluded to; we, therefore, trust the consideration of this subject will possibly tend to render it less universal in its operation on the one hand, or more directly punishable on the other. We are perfectly aware of the many difficulties

that occur when the question is proposed—What is to be considered "trimming;" how far is it to be tolerated; and what the punishment with which it is to be visited?

None but those parties who make it a point to attend the generality of our poultry meetings can possibly appreciate the truly grievous extent to which this unfair practice is adopted; scarcely a single show being without numerous instances of the most glaring character, easily recognisable at the first glance; whilst an even increased number abound when an adept has endeavoured to deceive the arbitrators by less-extended and far more carefully-devised manipulations. The difficulty in this latter case is proportionably increased as the crafty proprietor endeavours, by all the means at his disposal, to place himself in a position where (if discovered) he can attribute the loss of any particular portion of the plumage exclusively to the result of accident, and as not produced by any design to deceive, either on his own part, or that of any individual connected with him, over whom it may be presumed he has exercised his authority. Hence, it is not unfrequently the case, that if properly "disqualified," a most recriminative and personally hostile feeling is evinced towards the judges who may have dared to expose the deception, clouds of exculpatory witnesses being produced.

We once knew a very extreme case, where three witnesses vouched to a fact of which they knew nothing, being actually suborned to give this false evidence, and (after imbibing the fruits of their service at a neighbouring ale-house) acknowledging "in their cups" their perfect willingness to repeat the same help "for any one" placed in the like dilemma, always providing a similar amount of intoxicating beverage should prove the affixed reward of their base culpability. It will be generally found, that parties so debased to all feelings consistent with honour and honesty as thus to attempt to defraud, do not hesitate not only to adopt any available means to avoid exposure, but also commonly view the party by whom the imposture was detected in the light of a personal enemy. They hesitate not to add to their criminality individual insult, and the vindictiveness (a previous conviction of complete security sometimes produces when the revulsion takes place) cannot be appreciated except by those who have frequently witnessed it. From these combined causes, to expose "trimming" is, BY FAR, THE MOST THANKLESS PORTION OF THE DUTIES OF A POULTRY JUDGE.

The judges must found the accusation exclusively on the fact of incomplete plumage; the exhibitor almost invariably insists the complaint emanates from circumstances beyond his control, and it will be evident, to prove wilfulness against the accused is generally beyond the bounds of possibility. It ends in a positive wrangle, the dispute generally "settling down" as to whether the want of feathers arose from accident or design. The diverse opinions expressed by the by-standers only renders the matter still more undetermined; the dispute assumes the nature of clanship; the exhibitor, perchance, asserts himself an unjustly accused individual, whilst the arbitrator determines, in "his own mind," never to rush into "hot-water" again, but let any "trimming" remain unexposed. There have been cases, no doubt, in which a servant has, altogether, without the connivance or guilty knowledge of his employer, been the only blameable party in the transaction, and also that (when thus detected unexpectedly) has protested his individual innocence, lest, by admission, he might incur summary proofs of his master's displeasure. There is a contingency still more deplorable, but one that, nevertheless, fails to render the deception less objectionable, as, in this latter case, the annoyance only proves the greater from the implicit reliance previously placed on the word and general conduct of the domestic. Perchance it may be advisable to point out, very briefly, a few of the most generally practised instances of "trimming" that are at the present time adopted.

In the Black Poland class a very forcible "illustration" is almost universally prevalent. The anterior feathers of the crests are removed to prevent a prominence of black feathers at the front of the top-knot. If the suspected fowls are taken in hand, and carefully examined, a bare space will be discovered midway between the base of the bill and the commencement of the white feathers of the crest. In the more artfully-devised instances of Poland

"trimming," however, the "trickster practice" is applied some months or so previously to the competition at which they may be entered; the removed feathers in this latter case being *partially* restored, the means of detection become far more difficult, and the proprietor, as a rule, lays the whole blame on "the hens pecking each other." That hens sometimes (from being placed in too confined space) are really prone to this vexations and vicious practice is willingly admitted; but numerous instances could readily be referred to where the result ensued from well-considered plans of their owner, without the fowls themselves being culpable in any way. When time is thus permitted for partial reproduction, the difficulty of proof is greatly increased, and, in some instances, impossible at the time being; but, like many other failings, a few weeks in a new proprietor's possession so alters the general character of the fowls, that unless the same means are again pursued, their former success affords no guarantee whatever of continued high position on the prize-lists.

Again, both in the Buff Cochins classes, and those for both the varieties of Pencilled Hamburgs, *purely* clear ground-coloured hackles (without any markings whatever), are the main desideratum. How frequently are these feathers, if objectionable, plucked away, or, still more artistically, "punice-stoned" at the edges, to remove the impermitted stain that stands between them and success. Still, though conviction that fraudulent practices have been adopted take firm possession of the arbitrator's mind, if such opinion is mooted, the "fringed" character of the hackle feathers is at once attributed to "nothing but wear, from the poultry pulling their heads backwards and forwards through the wire-work meshes of the aviary in which they have been recently confined." The "docking" of the tails of Cochins (more particularly the male birds) is a comparatively easily-discovered practice; the original plan was simply to remove the amount of both shaft and beard feathers from the end of the principal tail feathers. The punice stone here was again called into requisition, and the shaft (or quill portion of the feather) rendered sufficiently pliable by weakening carefully from the under side with a sharp pen-knife, and afterwards darkening the newly cut part of the surface with nitrate of silver. But, to proficient judges, this artifice rarely availed to fulfil the deceptive purpose intended, and is now looked upon as rather a "bungling" fraud. The "modern improvement" is to cut off the too lengthy feathers closely to the rump of the fowl operated upon; shorten them from the bottom end (to the extent deemed advisable), and after sharpening the shaft to fit tightly the hollow of the quill still remaining in the bird, again affix each in its original position with a kind of varnish that dries instantaneously. Instances have occurred, where *all* the principal feathers of a Cochins cock's tail have been scientifically shortened, and the outward appearances so preserved, that to detect the imposition was far *more* than a difficulty.

In Sebright Bantams, the sickle feathers are oftentimes "broken" off midway of their length, to carry the appearance of accidental injury, a feature that was even passed over at the late Birmingham Show without comment; for the difficulty of assigning a positive cause for the deficiency of plumage is too obvious to act otherwise than as an actual inducement to oversight, rather than promote a quarrel with the party practicing the deception.

But our space will not permit prolonged exposure of various other artifices equally unique, and we will at once proceed to state our firm conviction, that to detect every case of actual "trimming" would, in most exhibitions (particularly those of the northern counties), occupy a space of time quite equal to the whole of that designed for the proper adjudication of the premiums themselves; their name is legion, and the universality of the practice sadly too general. The delinquents are frequently unexposed from the twofold causes of the great rapidity now requisite to fulfil the duties in the appointed time, and, again, the host of unpleasantness exposure invariably induces, however temperately enforced. The principal difficulty seems to be, as to whether the absence of any portion of the plumage of poultry exhibited arises from accident, or design; in other words, whether the injury is produced by misadventure, over which the owner has not any control, or, contrariwise, being a premeditated act of subtilty on his part, or those

connected with him. To affix the most advisable line of demarcation is a task of great cavil, as in the generality of carefully-managed cases, to discriminate beyond dispute is impossible; whilst, in some instances, the want of plumage has been caused by parties unwittingly, and without a desire to imposition. Thus, in many cases, we have noticed fowls where both wings have been deprived of several of the flight feathers by the inexperienced, simply to prevent them ranging beyond their allotted boundary, although not unfrequently removed because the absent plumage was deficient in colour. There are likewise, undoubtedly, examples of broken feathers by accident, having every outward appearance of crafty intentions to deceive only; in some, beyond the bounds of anyone to discriminate the causes that led to them. In this list we may include broken tail feathers, cut wings, &c.

Again, there are some other attempts to improve for exhibition purposes, such as laying down the feathers on the heads of Game cocks with soap or like adhesives. This is, undoubtedly, wilfully altering the natural appearances of the fowls practiced upon; but we ask, Does it constitute what is called "trimming?" We have consulted with many of the most practically experienced poultry amateurs to request their advice as to the most efficient remedy for this unfair advantage (now so continually in vogue), where valuable prizes tempt to the deception. Some reply, "Let *every* pen containing any specimen incomplete, as to its plumage, be at once 'disqualified,' and assign the reason in writing on a card affixed to the front of the pen; it will soon work out a cure." In every case that has come to our knowledge, when this plan has been hitherto adopted, angry recrimination has been the invariable sequel, and the alteration ended in much that was reprehensible every way.

All this has taken place from the hard proof necessary to conviction, and the great facility that as constantly arises of protesting absolute innocence. Our own desire is simply to direct public attention to the manifold injustice that attends permitting such practices to pass over unexposed and unpunished. The honest exhibitor is, of course, the injured one, and naturally feels proportionably indignant, more particularly when the artificial results were brought about (to his prejudice) by the fraudulent handiworks of those from whom we had a right to have anticipated a more honourable course of conduct. We have only to add our unfeigned hope, that, now publicly introduced, some whole-sale remedy may be suggested.

HENS LAYING SOFT EGGS.

"MONOPOLY"—"Selfish secrecy;" those are very severe words; but "W. H." is possibly a keen scrutiniser of human nature, and on that consideration his reflections may not prove altogether wrong; though let me think, for poultry amateurs, better thoughts.

If "W. H." has read attentively, he must own that a good deal has been said, and written, in *THE COTTAGE GARDENER* on the subject of fowls laying soft eggs. A case, bearing exactly on the subject, has occurred here during the last few days, and I lose no time in communicating the feature and the result, in order, so far as possible, to remove "W. H.'s" severe strictures on poultry amateurs.

We have recently introduced into our poultry-yard the White-crested Black *Polands*, to the great admiration of the cook, who is vastly taken with their topknots. They came from the land of Cockayne, and a bitter cold north-east wind has been blowing ever since their arrival, to the utter seclusion of slugs and worms, and the insect tribe. It was thought (and truly so) that a small daily modicum of the stockpot residuum of some carrot soup might serve them, *pro tem.*, in lieu of all those creeping things. At all events, it proved an infinite relish; so much so, that the damsel gave the "pretty creatures" an infinite deal more of it than we were aware of. The consequence soon spoke to the fact, by one of the hens moping about, and expelling the mere yolk of an egg, proving at once that a severe inflammation of the egg-passage was the penalty she was paying for the cook's liberality. Of course, the carrot soup was instantly countermanded, and the indiscretion of too much of a good thing pointed out, along with the remedies, which

were these: the hen was placed in duranee vile, in a fattening coop (a construction similar to the one illustrated on p. 380, No. 386), and kept fasting for a few hours; then "one grain of calomel and one-twelfth of a grain of tartar emetic" was mixed with some barley meal; the quantity of meal made to represent the size of an egg. This was put into the feeding trough, and placed before the hen for her supper; a greater part of which she consumed, and she eat what remained the next morning.

We did not find it necessary to repeat the dose, for the hen became sufficiently purged, and altogether of a livelier disposition towards the evening. Her next meal consisted of some soaked crusts of bread. She came out of duranee the morning of the second day, and immediately made an attack upon gravel, grass, and egg-shells. She dieted in future with her compeers, and to-day, being the fifth day from her malady, she has laid an egg perfect in every respect. But in real pity, I would ask "W. H.," if two ounces of castor-oil administered to a hen in one week is not too much to recommend? The "boy" may have emptied a "two-ounce bottlefull" of the oil; but I question very much whether he emptied that entire quantity down the hen's throat.—UPWARDS AND ONWARDS.

WHAREDALE AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS was held at Otley, Yorkshire, on the 18th inst. Judges—Mr. A. Goodman, Gledhow House, near Leeds, and Mr. J. B. Stead, Leeds. The following are their awards:—

SPANISH.—First, Mrs. Lane Fox, Bramham Park. Second, Joseph Stockdale, Carlton, near Skipton.

DORKING.—First and second, Edward Akroyd, Denton Park.

GOLDEN PHEASANT.—First, William Maude, Dub, near Bingley. Second, Stephen Blakey, Otley.

SILVER PHEASANT.—First, Charles Yates, Otley. Second, C. H. Mitchell, Park Field House, Manningham.

CHITTAPRAI.—First, William Maude, Dub, near Bingley. Second, Thomas Horsfall, Burley Hall.

GAME.—First, John Scott, Skipton. Second, C. H. Mitchell, Park Field House, Manningham.

BANTAMS.—First, Robert Jarvis, Newall, near Otley. Second, Walter Duckworth, Addingham.

TURKEYS.—First, Edward Akroyd, Denton Park.

ROVEN DUCKS.—First, Mrs. Lane Fox, Bramham Park. Second, Edward Akroyd, Denton Park.

AYLESBUAY DUCKS.—First, James Laycock, Otley. Second, Edward Akroyd, Denton Park.

ANY OTHER BREED.—First, Edward Akroyd, Denton Park. (Cochin-China.) Second, William Maude, Dub, near Bingley. (Black Pheasant.)

OUR LETTER BOX.

DISORDERED POULTRY (Henricus).—Never was such an illustration of killing by kindness. You give your poultry two-thirds too much food. Give them one-third of the quantity you now give, and of that third let one-half be soft food. Give them, however, as much green food as you can—grass mowings, cabbage leaves, &c. When a fowl has a hard crop, or, as it is termed, is crop-bound, pour a dessert spoonful of gin down its throat. Give your hens that lay shell-less eggs one grain of calomel and one twelfth of a grain of tartar emetic, two mornings following; do not let them have any corn, but plenty of green, and some soft food. A cross between a Malay fowl and a Cochinchina fowl is very much like, if it is not actually, what is called a Brahma Pootra. Such a cross has never produced any improvement.

POULTRY-HOUSE AND YARN.—"My employer keeps Dorkings—good, plain, old-fashioned, useful birds, but not exhibition animals. They have a so-called "poultry-yard," seventy-five by ninety-five feet. On the west and south it is surrounded by a brick wall ten feet high; on the north, a range of low shedding, forming a lean-to with pillars in front. This was meant as a laying-shed, and a row of boxes is fixed along the wall; but the hens have an aversion thereto. They neither lay, nor sit in them satisfactorily. Would I be right in transforming this to a roosting-pen, leaving the front open as before? It is low—only sufficient, at the highest, for a man to stand upright with his hat on. The east side of the yard is bounded by cattle-pens, and a close roosting-house, which I thought of transforming to a laying-bouse. The yard is turfed over, and has a reservoir of fresh-water in the centre. Strange to say, we never succeed in rearing chickens within its precincts. The hens fly over the lean-to into an extensive farm-yard at pleasure. Such being the circumstances, we are unable to keep any select fowls apart advantageously. We wish more fowls—I mean, more of the fancy varieties, and consider that there ought to be ample facilities for keeping three or four kinds, provided we only knew the most judicious mode of proceeding. Expense is no material object, and abundance of labour is at command. Should you recommend unturfing the grass-yard, laying down a portion fresh, and keeping the rest for being dug over, or for planting a few shrubs, &c.?—ENQUIRER."

[An open shed facing the north is about the worst situation and form that could be selected for a laying-house. No hen would go there by choice. Pull down the shed, and build a poultry-house facing the south against the ten-foot wall. Let the roosting and laying compartments

be walled or boarded on all four sides. Warmth and seclusion are preferred by the birds, and promote laying in the winter. You might have the yard divided by wire fences into four slips, each eighteen feet nine inches wide, and at the end facing the south, each should have its roosting and laying room opening the one into the other; but it is quite impossible to advise specifically without having a ground plan drawn to a scale.]

SUNFLOWER SEED AS A POULTRY FOOD.—"In one of your back numbers, I see that inquiries are made about the use of Sunflower seed. I grew some last year, and in the autumn I allowed some Cochinchina chickens (a few weeks old) to run in the garden. The wind blew down the Sunflowers, and the chickens feasted on the seeds, and died, in consequence, I believe, of eating those seeds. I gave a few of the seeds to some grown-up fowls, who did not suffer from it. Possibly, whole wheat, or other hard grain, might have been equally fatal to young chickens. I have hitherto kept only Cochins, which, though confined only by a low fraue, have never intruded into my neighbours' gardens. I now wish to try Brahma Pootras, provided they will not cause me to incur the expense of making higher fences. I shall feel obliged if you will inform me if this will be necessary or not. I shall also be glad to be informed if Brahma Pootras are as good winter layers as Cochins are.—COCHIN."

[All large seeds uncrushed are injurious to very young chickens. Brahma Pootras are as good layers as Cochinchinas; indeed, they are, at the best, only a white variety of that breed speckled with black. Burnham, in his "History of the Hen-fever," gives an account how Brahma Pootras were manufactured in America. We will publish the narrative when we can spare space.]

GEES LAYING DOUBLE-YOLKED EGGS.—"G. M. is greatly obliged by the hint given by 'W. H., Exeter,' as to the treatment of poultry laying soft eggs; but would be glad of a little further information as to the quantity of castor-oil to be administered to a Goose; and how often should the dose be repeated? Also, how could the 'tonic' in the form of 'nails' be applied to Geese who supply themselves with water from a very small pond? In 'G. M.'s' case, though the Goose has occasionally laid soft eggs, her chief fault is in producing monster eggs with double yolks, weighing from 10 oz. to 12 oz., and which have always proved unproductive. There have been three, and even four, yolks in one shell."

ORIGIN OF THE DRAGON PIGEON.—"Will you be kind enough to tell me whether the produce of a cross between a Carrier and Pouter Pigeon would produce Dragons? And also the points of a good bird of this variety?—W. C."

[Dragon Pigeons are thought to be originally produced from a Carrier and Tumbler; their chief colour is blue. If bred over to the Carrier again, they become Horsemen in common phrasology. Their points are the same as those of a Carrier, only proportionately less. The cross between the Carrier and the Pouter produces the bird known as the Pouting Horseman. These are large, merry birds, excellent breeders, and produce fleshy and well-flavoured young. Their points are intermediate between the Carrier and Pouter.—B. P. B.]

LONDON MARKETS.—APRIL 28TH.

COVENT GARDEN.

There is an abundant supply of everything in season, and the prices continue much the same as in our last quotations. The display of early Grapes is very fine, and the *Asparagus* from France is large, and remarkably well grown. Cornish *Broccoli* is now nearly over, and is replaced by *Asparagus* and *Ash-leaved Kidney Potatoes* from the same county, and all from the open ground. The late severe morning frosts have very much retarded and even checked the *Asparagus* in the neighbourhood of the Metropolis.

FRUIT.		
Apples, kitchen, per bushel.....	6s. to 10s.	
"dessert.....	6s. ,, 10s.	
Pears, per dozen.....	1s. ,, 3s.	
Pine-apples, per lb.....	8s. ,, 12s.	
Foreign Grapes, per lb.....	3s. ,, 4s.	
Hothouse ditto, ditto.....	12s. ,, 20s.	
Strawberries, per oz.....	1s. ,, 2s.	
Foreign Melons, each.....	0s. ,, 0s.	
Oranges, per 100.....	4s. ,, 10s.	
Seville Oranges, do.....	6s. ,, 12s.	
Lemons.....	6s. ,, 12s.	
Almonds, per lb.....	2s. ,, —	
Nuts, Filberts, per 100 lbs.....	50s. ,, 60s.	
"Colts, ditto.....	60s. ,, 70s.	
"Barcelona, per bushel.....	20s. ,, 22s.	
Nuts, Brazil, ditto.....	12s. ,, 14s.	
Walnuts, per 1000.....	9s. ,, 12s.	
Chestnuts, per bushel.....	15s. ,, 24s.	
VEGETABLES.		
Cabbages, per doz.....	1s. to 1s. 6d.	
"Red, per doz.....	2s. ,, 4s.	
Cauliflowers, per doz.....	4s. ,, 6s.	
Brocoli per bdl.....	1s. ,, 2s.	
Savoy.....	1s. ,, 2s.	
Greens, per doz. bunch.....	4s. ,, 6s.	
Spinach, persieve.....	— ,, 4s.	
French Beans, per hundred.....	1s. 6d. ,, 2s.	
Carrots, per bunch.....	4d. ,, 6d.	
Parsnips, per doz.....	6d. to 9d.	
Beet, per doz.....	1s. to 1s. 6d.	
Potatoes, per cwt.....	3s. ,, 6s.	
Onions, young, ditto.....	1d. ,, 2d.	
Turnips, per bunch.....	3d.	
Leeks, per bunch.....	2d. ,, 3d.	
Garlic, per lb.....	6d. ,, 8d.	
Horseradish, per bundle.....	1s. 6d. to 2s. 6d.	
Shallots, per lb.....	6d. ,, 1s.	
Lettuce, Cos, each.....	6d. to 8d.	
" Cabbage per doz.....	2d. ,, 3d.	
Endive, perscore.....	1s. 6d. ,, 2s.	
Celery, per bunch.....	9d. ,, 1s. 6d.	
Radishes, Turnip, per dozen bunches.....	6d.	
Water Cresses, ditto.....	6d. ,, 9d.	
Small Salad, per punnet.....	2d. ,, 3d.	
Artichokes, per lb.....	2d.	
Asparagus, per bundle.....	4s. ,, 8s.	
Sea-kale, per punnet.....	1s. 6d. ,, 2s.	
Rhubarb, per bundle.....	3d. to 6d.	
Cucumbers, each.....	1s. ,, 3s.	
Musbrooms, per pot.....	1s. 6d. ,, 2s.	
HERBS.		
Basil, per bunch.....	4d. ,, 6d.	
Marjoram, per bunch.....	4d. ,, 6d.	
Fennel, per bunch.....	2d. ,, 3d.	
Savory, per bunch.....	2d. ,, 3d.	
Thyme, per bunch.....	2d. ,, 3d.	
Parsley, per bunch.....	2d. ,, 3d.	
Mint, per bunch.....	2d. ,, 4d.	
Green Mint.....	6d. ,, 8d.	

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WEEKLY CALENDAR.

D M	D W	MAY 6—12, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
6	Tu	Malthinus humeralis.	29.951—29.938	63—41	W.	—	24 a 4	29 a 7	10 41	2	3 34	127
7	W	Dasytes ater.	29.970—29.719	60—33	S.W.	—	22	30	11 51	3	3 38	128
8	Th	Dasytes æneus.	29.830—29.772	56—21	N.W.	01	21	32	morn.	4	3 42	129
9	F	Malachius æneus.	30.001—29.616	62—43	S.W.	09	19	34	0 44	5	3 45	130
10	S	Malachius biguttatus.	29.508—29.409	63—44	S.W.	04	17	35	1 20	6	3 48	131
11	SUN	WHIT SUNDAY.	29.624—29.366	59—34	S.W.	0.36	16	37	1 45	7	3 50	132
12	M	WHIT MONDAY.	29.831—29.780	53—28	N.	—	14	38	2 3	8	3 51	133

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 62.0°, and 42.0°, respectively. The greatest heat, 81°, occurred on the 12th, in 1833; and the lowest cold, 27°, on the 10th, in 1853. During the period 117 days were fine, and on 79 rain fell.

CYSTOPTERIS FRAGILIS.



THIS Fern has been also called by modern botanists *Polypodium fragile*, *Polypodium album*, *Cyathea fragilis*, and *Aspidium fragile*. Fragileness or brittleness is a striking characteristic of its stems, and as in its Latin names this is uniformly alluded to, so is it in its English title of *Brittle Bladder Fern*, and *Brittle Polypody*.

Root tufted, scaly, black, and having numerous fibrous rootlets; it extends slowly, throwing out fresh crowns around the old one. Fronds many together, usually about six inches high, though in favourable situations, warm, moist, and shaded, they attain to nearly twelve inches. Their general outline is spear-headed but sharp-pointed, and their colour a bright green. The leaflets have the same spear-head form as the fronds, but are not so sharply pointed; they are not quite opposite, but so

nearly so as scarcely to be described as alternate; they clothe rather more than half the stem, and are not regularly arranged. The leaflets are usually alternate, pointed-egg-shaped, but in barren fronds blunt, tapering at the base and decurrent, their edge deeply, numerous, and sharply toothed; the lower leaflets are so deeply cut sometimes as to be nearly formed into smaller leaflets, and such form may be described as doubly-leaflet. Stem reddish-brown, becoming almost black, very slender, brittle, juicy, smooth, but with a few scales at the very bottom. The fructification on almost all the side-veins, and near their end. It is in round masses, numerous, crowded, and finally running together; at first pale, but becoming black, and covering the whole back of each leaflet. The cover (*indusium*) of the masses of spores is white, loose, membranous, sinking inward, irregularly jagged, sometimes lengthened to a point, but soon turned back, and forced off by the spores, which are black when young, but become browner with age.

This species is extremely liable to alter its form according to the temperature of the season, and the moistness or dryness of the situation; but such alterations are not in any way permanent.

It is not an uncommon Fern in mountain districts, especially on old walls, and chalky, damp, shaded rocks.

In *England* it has been found at Richmond, and Settle, in *Yorkshire*; Peveril Castle, Peak's Hole, Castleton, Lovers Leap, near Buxton, and Matlock, in *Derbyshire*; near Hyde, in *Gloucestershire*; Cheddar, in *Somersetshire*; in *Nottinghamshire*; near Bristol; on the ground from Bourn Heath to Wormisash, near Bromsgrove; and at Exwick, near Exeter.

In *Wales*, in a cave at Clogwyn Coch, Snowdon, rocks above Cwnn Idwel, near Tŷll Der, and near Wrexham.

In *Scotland*, in *Aberdeenshire*, Moray, Ross-shire, near Maens, in *Berwickshire*; Sutherland and the *Kincardineshire* coast; and near Killin.

In *Ireland*, in *Kerry*, at Lough Inn, and Lough Derryclare, Connamara.

The first time this Fern is mentioned as a native of Britain, we think, was in 1696, by Ray, in the second edition of his "*Synopsis Methodica Sterpium Britannicum*." He calls it "*Filix saxatilis caule tenui fragile*" Fine-cut Stove Fern, with slender and brittle stalks. On old stone walls and rocks in the mountains of the Peak, in *Derbyshire*, and in the West-riding of *Yorkshire*, and in *Westmoreland* plentifully. Dr. Tancred Robinson found this Fern on the dropping rock at

Knaresborough, from which the petrifying water distils."

The cultivation of this species is the same as that of *Cystopteris alpina* previously stated, and in addition we quote the following from Mr. Moore's "British Ferns":—

"From the delicate texture of this Fern, and its adaptability to various situations, it is well suited for cultivation; and grows vigorously planted either on rockwork or in pots, and placed either within a frame or without one in a sheltered and shady position; it however becomes most beautiful when developed in the damp close atmosphere of a frame or glazed case. The small size of the plant renders it more convenient for pot culture than many other kinds. The other species of *Cystopteris* are similar in habit, and may be cultivated in the same manner. The dormant crowns should not be kept too damp during the winter. They all propagate readily by separating the crowns whenever more than one is formed, and most of them form new crowns rapidly."

WE shall publish, next week, the Report from the Council of the Horticultural Society read at its anniversary meeting on the 1st inst.

This report was received and adopted, and after two hours dull talking, a resolution, also, was unanimously agreed to in favour of a recommendation from the Council, "to defer closing the subscription for the present," and the 24th of June was the day appointed for closing the subscription list.

This subscription, our readers will remember, is for the purpose of saving the Chiswick Garden to the Society. For this purpose £5000 are required, and more than £2,700 of it have been subscribed.

A proposal, first originated, we believe, in our pages, is now entertained of combining the Horticultural Society's Garden with that of the Crystal Palace. If the chief contents of the Garden at Chiswick can be moved to Sydenham; and if young grafted specimens from all the fruit-trees can be secured, we see many advantages besides which render such a union desirable.

PEAR-TREES AND THEIR AILMENTS.

I SCARCELY know how to approach this subject in a proper spirit: no man has been more pleased, nor more offended, with Pears than myself during the last thirty years. Like other persons, I have had all the three kinds—good, middling, and worthless; and what is the most annoying is, that amongst the latter have been enrolled kinds which one part of the gardening world pronounced most excellent. In these matters I have been noways singular; for we have all heard complaints from the four cardinal points of a similar character. One party urges that the stock is wrong; another, that the soil will not grow Pears well; a third, that their climate is so very bad, that it is a bad locality; and, lastly, there are those who blame their fruit-room.

That such things may be in part adverse, either one or all, according to circumstances, may be correct; but if so, it would seem to show that the Pear-tree is yet very imperfectly understood, even by first-rate gardeners and nurserymen. Few men have had more experience in Pears than Mr. Rivers; and few have made more complaints of cracking, bad setting, worthless flavour, &c.

Such being the case, I must confess that I approach

any consideration of the case with some diffidence. Progress, however, in an eminent degree, is the order of the day, and we may not remain precisely where we are and have been, but make some effort at advance; for even as "little strokes fell great oaks," so is knowledge increased. The agitation of a question, however it may give rise to wrong conceptions or fallacious arguments, has a constant tendency to hasten the desired end.

As to Stocks; there seems to be a desire on the part of some to dispute their influence over the scion. Now, why should we doubt this? How are we to account for two Pears of the same kind, growing side by side, and planted at the same time, and in the same kind of soil, differing so much in habit and fruiting? Hundreds of such cases are to be found through the kingdom; and they are, doubtless, familiar to every experienced gardener. I have here a *Glout Morceau*, which has stood in its present situation for the last dozen years, and which has never carried a full crop; although another, planted under precisely similar conditions, has borne very considerable crops. The trees, moreover, look like two kinds in habit, and the quality of the fruit differ. Thus, one is particularly robust in habit, and has made a stem of eight inches diameter at the bole; the other is delicate-looking, and the bole not more than five inches. The foliage of the two, moreover, constantly differs in colour; the robust tree a dark-green, the delicate tree a pale yellowish-green; the latter, of course, a mere consequence of a debilitated habit. But what is singular enough, the Pears from the delicate tree are generally best flavoured, the skin finer, but the fruit not quite so large. It is, I conceive, perfectly useless to discuss farther the influence of fruit-stocks on the scion. We can surely, at least, prove that one stock shall produce a grosser tree than another; and pray let me ask, Does it make no difference in the fruit, in a given kind, that is much grosser in habit than another of the same kind, under similar conditions?

I am still of opinion, that Pear-stocks would be best obtained by seedlings from some of our most hardy cultivated Pears; and the conditions I should ask would be these:—1st. The parent tree must be of a perfectly healthy kind; 2nd. It must be a great bearer; 3rd. It must have a clear and sound bark; and, 4th. It should be of a somewhat early kind. As instances of what I would suggest, let me point to *Beurré d'Amanlis*, *Beurré de Capiaumont*, *Moorfowl's-egg*, and *Beurré Diel*. Of course, I do not expect that the results would be precisely similar from each of these kinds. I feel assured they would not. This shows what need there is for further experiments on this head, and that, let people proceed how speedily they will in this affair, we must be content to wait another half-dozen years before the Pear question will be thoroughly understood. These things ought to have been tested long since; but it must not be expected that gardeners can carry out such tedious and watchful processes. If ever it is done, it must be by some public body, or by amateurs; and I fear the latter are too uncertain in their movements. Such things should be conducted on a well-devised and preconcerted plan.

Now for a few words about CLIMATE. In the first place, I would enquire, Is it a matter of mere temperature which concerns our present enquiry? or is it solar light, or both? That these principles, bearing a due relation to each other, are all-important to our tender fruits, who will deny? But it is just possible that this balance, in some parts of Britain, may not be quite the thing for the Pear. If it can be proved, in any given case, that more heat is necessary, and that a higher temperature in the aggregate is requisite, why it brings one to the idea of Orchard-houses, glass walls, and other costly appliances. Costly, did I say? I beg pardon: folks say that they do not affect the expenditure much.

But, if it be light that the buds, foliage, &c., of tender Pears are short of, why it leads altogether to another kind of proceeding. We must take care that no extraneous or rampant foliage, from superfluous or gross growths, impedes what light our climate does really afford. This will less concern the pocket, by far, than building glass-houses; for our "Man Friday" can be taught to pinch off the heads of arrogant and over-luxuriant spray. I may seem to some to be too particular in thus endeavouring to separate the parts of this question; but I think it important, in the present state of things, to do so.

As to SOIL, why it must naturally be supposed that persons about to plant Pears, or, indeed, any other fruit, will very naturally look at their ground, and see if the native soil is anyways fertile. I do not mean, is it rich in manurial matters; but is it right in texture—sound beneath? Of course, Pears, like other fruits, have their likings as to soil; but were they particularly miffy on this head, they would scarcely maintain the important position they have long held in the dessert. One thing I hold concerning this part of the affair: Pears prefer what is called, amongst gardeners, a sound soil; that is to say, a soil that is slightly adhesive, or, in other words, a good loam. But that Pears may be grown in lighter soils, especially if somewhat dark, and slightly unctuous in character, we have abundant evidence. Pear soil, however, as to the choicer kinds, must be free beneath, as to water lodgment; and this concerns the argument much. Indeed, how few of our cultivated fruits can endure stagnated moisture beneath: if any, it is surely the Black Currant or the Raspberry.

One thing here occurs to me, and, although a little out of place, I must name it:—Has the propagation of *Pears from Cuttings*, and thus growing them "on their own bottoms," ever had a fair trial? The same may be asked as to Apples; and I very much doubt if they have had this fair trial. That they would make dwarfer trees, and come into early bearing, there can, I think, be little doubt. Whatever might be the result of a thorough and fair trial, I should but fear two things: first, that they would not be long enduring; and secondly, that they would require a stimulating compost. However, these are but dreams, and as such I give them to Pear-growing people.

As to *Quince Stocks*, I find it painful to condemn them, and difficult to praise them in anything like a wholesale way. I am perfectly aware that there are some kinds which succeed to admiration on them, in soils as we generally find them; perhaps about thirty per cent. of the whole catalogue. And here I would suggest to those nurserymen who take the van in Pear-growing, to be much more particular when they make out their descriptive lists. I have tried kinds on the Quince which are in such lists, stated to flourish admirably, and after being some four or five years in their situation they have scarcely yielded a good Pear. Indeed, how could they do so when their bark is in a constant state of excoriation? I had almost said they are infected with a kind of vegetable scrofula. This gangrenous kind of affection so corrupts and distorts the branches that the tree can make no growth; it is, indeed, a dwarfing system, with a vengeance. But the fruit, also, attains no size; they become almost microscopic objects, and might, from their hide-bound and rifled appearance, together with a very antique complexion, be called Mummy Pears. To be fair in the argument, I have seen such things on the wild or free stock; but, indeed, very seldom as compared with those on the Quince. I remember that, about thirty years since, the old *St. Germain's*, then a useful Pear, and the famous old *Brown Beurré*, fell into a state of decline around the neighbourhood of Sandon, and a few years after, that once invaluable Pear, the old

Crassane. It is of no use saying that all the new Pears which thus suffer do so for a like reason—what, perhaps, is called "wearing out"—this I, for one, will not receive as fair evidence.
R. ERRINGTON.

BOYD'S SCYTHES.—We have now had further opportunities of trying both the *Self-adjusting* and the *Vulcan Scythe*, and, as the season for mowing is at hand, we again recommend them to our readers as the best implements in every respect that they can employ for efficiency and economy of labour.

BEDDING GERANIUMS.

THE SCARLET BREED.—From how many parents, or wild species, would you suppose have sprung the present race of Scarlet Geraniums? or from how many wild parents have the present races of the florists' Pelargoniums come down to us? These are two questions easily put, but exceedingly difficult to answer satisfactorily. The nearest guess which one could make, from a knowledge of all the kinds which are admired at the present day, would fall far short of the reality, to those who happen to know the wild material from which our flower-beds and show-tables of the present day have been filled.

There are seven or eight well-marked sections into which the Scarlet Geraniums may be divided, and some of the sections branch out again into well-marked divisions, so that you might say a dozen forms of them, on a rough calculation, might and may be produced by one garden; but I want representatives from every fractional section of the whole race, and if I get them all, as I am persuaded I shall, who knows but I shall be far on to a score of sectional divisions, all in *one branch* of the race of Pelargoniums? It is to our credit that we have made all these various forms out of two wild plants; some say four, but that is going too far, considering our present knowledge.

There were several men who took particular note of the wild Geraniums as they were introduced, such as Cavanilles, a Spaniard, L'Heritier, a Frenchman, Jacquin, a German, with Andrews, Sweet, and Sims, of England, and others, all of whom were more or less liable to mistakes in making out the descriptions of one another in so very many forms bearing one family resemblance. The Cape Scarlet *Inquinans*, and the parents of *Fothergillii* would produce, between them, the horse-shoe leaf; and these three are certainly the foundation of all our present forms of the true Scarlet Geraniums, notwithstanding all the ink that has been spent by the aforesaid authors and others to swell the number of originals.

Of all the plain descendants of the "Cape Scarlet," *Tom Thumb* has gained most celebrity in the shortest time. He is descended from a royal race who had the next greatest run in their day—I mean the *Frogmore Scarlet*, which is a seedling by Mr. Ingram, the present Royal gardener at Windsor Castle; and yet I have known both the *Frogmores*, the *Frogmore* and *Improved Frogmore*, as well as *Tom Thumb*, fail, year after year, on certain soils. Before I made a particular provision for them at Shrubland Park, I could not get them to any degree of excellence. *Frogmore* was in cultivation for five-and-twenty years before that time, but none of my predecessors at Shrubland could do any thing with it. The principal scarlet in that place for years, previous to my time, was a strong grower, and such an inveterate seeder, that I hated the very sight of it; it was called the *Old Scarlet*. I could not make both ends meet without it, and to get rid of it for ever was the beginning of the celebrated collection of bedding kinds for which that garden is justly noted. After collecting and

improving for ten years, and after resting on the oars for half that number, here is the second move for a similar purpose. Every place of note, and many places of which we never heard the names, has now its own best seedling Scarlet Geranium, which is hardly known out of that neighbourhood. To collect all these into one garden, to match each of them with its nearest of kin, to note down the merits and the differences of each kind, and to report faithfully on the whole, is surely worth while putting your shoulders to the wheel, and if you do, you will be entitled to put as many questions about them, and the progress made in the researches, as seem good to you and to your friends.

The next best known kind, after *Tom Thumb*, is Frost's *Compactum*. Mr. Frost, at Dropmore, I believe, was the fortunate raiser of this kind, which is so distinct from all others as to be known at first sight when in flower. Formerly, it would make a true species; but the most singular thing about it is, that a second form of it has never appeared yet. It had no pollen for some years; but it would seed readily with other pollen; yet, out of many thousand seedlings from it, by the pollen of superior seedlings, I never saw a flower from it worth marking for a second trial. The nearest to it, which I remember to have seen, was one called *Gem*, which was raised by Mr. Ayres, the lucky hero among the Fancy Geraniums, from whom I expect a plant of every bedding Geranium within miles of him. Where Geraniums are planted in long rows, *Compactum* has the best habit for that style. It is also the best of them to follow the architectural lines on a terrace; but it will not mix, plant and plant, with any other kind. Putting an edging of *Flower of the Day* round it answers well enough, and that is the best edging for *Compactum* of all the edging plants; but that is very different from mixing. A compound bed may be made with three, four, or more kinds of Geraniums without mixing them, and if *Compactum* must be in that compound, recollect there is but one place for it—the very centre. It would never do to plant flat-headed Geraniums in the centre of a bed, and then put a row or band of *Compactum* round them, with other flat kinds in front of it. It is the best we have, however, for the centre of a bed, or for a single or double row. It does not tell well in a very large bed by itself, as you might have noticed at the Crystal Palace, and an edging of Verbena round it is only killing two plants at one planting. As a pot-plant, *Compactum* is, probably, the best in habit of the breed; at least, it is the easiest to make a good specimen of, and the one which will live the longest without getting out of shape or bare at the bottom.

Shrubland Scarlet, alias *Smith's Emperor*, *Amazon*, *Princess Royal*, and many other names, is the strongest of the race, and has the largest truss of any of them. It was the first seedling of them which appeared at Shrubland Park, and, like *Compactum*, there is not another just like it; but if you keep it to its own pollen the seedlings will show four variations, and only four—hence the reason for the various names, so many growers having been deceived by their seedlings from it. At Shrubland Park all the four varieties are used as one kind, one of them having a slight horseshoe mark, one with a much thicker leaf, and one with a thinner leaf than the original; but for colour, truss, and habit, the four are one, and cannot be used but as one kind. Seedlings of it make by far the best plants for pot specimens, as, with ordinary care, the congregation of sucker-like shoots, which rise from the bottom of the seedling Geraniums the second year, the bottom of the plants may be kept well furnished for many years; while plants from cuttings of it soon begin to get bare and woody at the bottom. The fourteen-feet high plants of it, on the lawn at Fulham Palace, were the finest I ever saw of it. The next best were on the conservatory-

wall in its native garden, and the large beds of it there are the only masses of it worth looking at that I have heard of. No one else seems to succeed with it in beds. The last time I was at Shrubland Park, I saw a hedge of it at the entrance to the conservatory-terrace a yard high, and as full of flower down to the ground as *Judy* in the boxes a little further on.

Punch is the best of the plain leaves for dry, chalky, or gravelly soils, and about the last that should be placed or planted in a rich garden. It rarely makes a good pot-plant, owing to the free habit of making too many bottom-shoots. Of all the Geraniums, it gives the best seedlings by its own pollen. I could always trust to ten being nearly true out of a dozen of them, for bedding with the mother plant; and it was from taking cuttings indiscriminately from such planted beds that so many inferior kinds of *Punch* got about the country. No visitors to the garden, for some years, could be put off from taking cuttings of it, and the nearest hand on the ground, and often the youngest hand, was trusted to cut from the original kind; but first come, first cut, was generally the rule. Still, *Punch* will never do on rich land.

Psalm, which is from the *Fothergillii* section, is the best of them all to keep over the winter; but is hardly planted now, except in large gardens. It is among Geraniums, however, what the *Black Hamburg* is among Grapes; it never fails, be the season or soil "what it may;" but its peculiar colour, orange salmon, requires a brilliant array of stronger colours all round its neighbourhood to bring it out properly. Hence the reason why every garden in the kingdom has not just as much of it as of *Tom Thumb*, or one bed, at least. Spring cuttings of it will answer better than older plants, in nine gardens out of ten. It is not a good pot-plant, except as a standard; but it is the best of them all for a standard to be planted out on the grass; and after the first year or two such standards require no more stakes or staking than a common standard Rose. In geometric gardens, and more particularly in terrace gardens, such standards in rows, alternating with bush-plants of Geraniums in the same row, look exceedingly rich and artistic when well done. It is true, you cannot have everything in a small place; but go to one of our principal country residences, and see the elaborations of details, the new designs almost every season, the rows, the rings, the network in flowers, the pyramidal flower-beds, the embroidered terrace-pattern, the accompaniments to flights of steps, the "window-sills," "the corridors," and the dining-tables, and, say if a pen like mine could pourtray a faint likeness of the scenes before you. Still, that is no reason why we should not make the attempt occasionally. And you may go over acres of most undulating and varied lawns and pleasure-grounds in other places, where all the beds and change of beds are on the one even flat style of humdrum planting and pegging, with not the size of a brick to knock your heels against, or to shake the rheumatism out of calves wearied to the extreme point by dragging you over so much sameness and such "nature assisted" simplicities, and squat patches of white, scarlet, and blue.

From the first rage for Tulips in Holland, to the last design for a cottage garden in England, there is not a period in the history of extravagant fancies from which some practice may not be borrowed, and is actually seized on at the present day, to give additional charms to the new art on which we are all engaged—the art of flower-gardening, which, in England, at least, is the youngest of the "arts," and owes nothing yet to poetry, painting, or landscape-gardening, so called. The whole of it has been the production of a few superior intellects from among the ladies of our own land. The lords of the creation have had little to do with it, hitherto, save

that of paying for the necessary experiments. The cross-breeder furnished the best portion of the materials which are in use at present; and gardeners have proclaimed the advent of the youngest art in their practice, and writing to an admiring and patronizing age; say not, therefore, that any one of us in particular is the lion in the way, seeing that all have helped, from "The Doctor's Boy" onwards; but, as surely as I am writing this, the origin of the art rests on the foundation which I have assigned.

Commander-in-Chief is the next on my list as the best bedder of the horse-shoe class of real scarlets. It is also an excellent pot plant. *Baron Hugel* is the best edging plant, of the same style of dark horse-shoe leaf. *Cerise unique* is falling out of favour in some quarters, owing to the faintness of the leaf, and *Lady Middleton* is taken to represent that peculiar tint; both of them make exquisite house plants for the autumn when they are grown into good specimens. My own specimens, which bloomed till last Christmas, and were then cut, are just now green, and no more; they are out-of-doors every day since the beginning of April, but are taken in the last thing at night. They look as if they might be expected to bloom a little after midsummer, but every flower-bud will be cut off as soon as it is perceived, till the end of August, if not later; after that, I shall expect them to flower on easily till the end of January.

Now, if you look out from among your old bedding scarlets a dozen of the strongest plants, and such as have a few inches of clear stems, before they branch into a head, shake them out of whatever they are growing in at present, and pot them at once into as small pots as you can pack their roots into, in rich soil, made sandy, and keep them as cool as the weather will allow, and as free from bloom as my two favourite plants, and as long, you may expect six to one against your teacher for winter blooming; and in my next I shall put you in the way of a more likely race to make the house gay in winter.

D. BEATON.

SALE OF ORCHIDS.—On the 25th of April, Mr. J. C. Stevens sold at his auction-rooms, in King Street, Covent Garden, about two hundred lots of Orchids, from the province of Veragua, in New Grenada, some being collected from the volcano of Chiriqui. The following are some of the highest prices:—*Trichopilia suavis*, £2 2s.; *T. coccinea*, £2 4s. "*Cattleya*, species unknown, found at an elevation of 4000 feet, at the base of the volcano Chiriqui," from £2 to £6; *Lælia superbiana*, £2 1s.; *Epidendrum maculatum*, £3; *Cycnoches*, species unknown, £2; *Odontoglossum Warszewiczia*, £2 9s.; *Stangeria paradoxa*, from Natal, 17s. to £1 4s. Only about 180 lots were sold, and they realized £342—an average of £1 18s. per lot.

MAKING AND MANAGING HOTBEDS FOR PROPAGATING.

"A CONSTANT CORRESPONDENT cannot find, in all the numbers of THE COTTAGE GARDENER, an exact direction for making a hotbed for seeds and cuttings. She has no gardener that understands the subject. A hotbed was made in March last, in which were put, in pots, *Verbena* cuttings, and various seeds—*Geraniums*, *Verbenas*, *Pentstemons*, *Petunias*—and she could not get much heat, and kept them from the light, and no air, hoping to promote a more rapid vegetation; but the *Verbenas* look worse than they did a fortnight ago; the seeds, as soon as they come up, are eaten by something, and she has put young cabbage-leaves in to entice the snails, should they be in fault, and a few have been destroyed."

I give prominent attention to this letter at present, not only because I should like to oblige to the utmost

every lady reader, but because I have had a number of private inquiries and complaints on the same subject, arising from similar disappointments. I think, if our correspondent had consulted previous volumes, she would have found full and explicit information on the making of hotbeds, and these composed of almost every possible material, and a little generalising would have enabled her to judge what was necessary for striking cuttings and raising seeds in March and April. The most explicit directions can never supply the place of practical experience; nor can the greatest experience predicate what a certain described hotbed should accomplish, if left in ignorance of the kind and state of the fermenting matter, and all the *hows* as to making the bed. Given the same amount of material to two men, for the purpose of being made into a bed by each, and it requires no conjuring to see the possibility of one bed yielding a sweeter and much more continuous heat than the other, arising, merely, from the manner of preparing the material, and the manner of making the bed. I shall first allude to the hotbed-making, and then to the rooting of cuttings.

If our correspondent had told us what material she used, our task would have been more definite, though, perhaps, less generally useful. Whatever the material, it should be sweet before it is used. Tan requires but little preparation, if not too moist. The refuse from flax-mills gives a strong heat, and wants little more preparation than throwing it together. The spent hops from breweries, when thrown together to get rid of the moisture and ferment, may then be made at once into a bed. Less of these are necessary to keep up a healthy, continuous heat, than of dung or tree leaves. Leaves alone will not yield heat enough for such purposes before March. After March, if there are a good proportion of Oak and Beech leaves, and they are just wet enough to cake together, they would yield heat enough for the purpose specified, if the bed was about two feet six inches at the back and two feet in front. Such material wants no preparation, but seeing that the leaves are wet enough to ferment. Generally they are too wet, if not collected dry. Every plant likes the vapours that escape from fermenting and decomposing tree-leaves. From 70° bottom-heat and from 55° to 65° top-heat can be secured from such a bed, and no danger, except from slugs and snails. These, in a small state, are raked up with the leaves, and the heat produced by fermentation brings them into full activity. The best securities against their depredations are surfacing the bed with a sprinkling of salt, and then a layer of ashes, with a little quicklime for plunging in, placing a few leaves of cabbages or lettuces greased, or brewers' grains, round the sides of the frame, and going and looking over the whole with a lanthorn at night.

Stable-dung is the most generally used, and this, owing to the rank and dangerous gases it throws off, requires considerable preparation. For such a purpose, a mixture of dung and leaves is very useful. For general purposes of early forcing, I prefer sweetening the dung partially before mixing it with the tree-leaves, as the leaves require no sweetening, and being mixed from the first would so far be decomposed, and thus give out less heat afterwards. In such a case as the present, however, I would not sweeten the dung much at first, but throw it together, water it if dry, and when heating strongly, turn it over, and add the leaves. I thus voluntarily waste, or burn up unnecessarily, a portion of the fermenting material, the leaves, in order that by that slight loss I may gain security from the slugs, &c., as such a strong heat generally gives them their *quietus*, or sends them off to other quarters. The heap will heat more regularly if covered all over with long litter, and a thatched hurdle placed against it on the side next the wind. When turned over again, so that the rankness is

gone, and it is uniform in dryness, being neither wet nor dry, a bed of such material, about two feet high at the back and twenty inches in front, will give the heat necessary.

In this latter case, and also where dung alone is used—as in the case of many of our readers, who have no access to other materials, and who obtain only a small portion of that, day by day, from the stable, byre, &c.—it will be sound economy not to place the daily additions in a heap, but to allow it to lie scattered somewhat thinly until you wish to prepare a heap for your bed; then select a barrow-load or two of the longest and driest, and place it aside. Commence your heap in a circular form, to terminate in a blunt cone, if there is not much of it, or in a square or parallelogram form if there is much. Mix the short and the long together nicely, beating it with the fork, but not treading it, and watering all the parts at all dry, unless the parts mixed with it are extra wet, as, without moisture, there is no fermentation to speak of; and when all is finished, cover with the litter laid aside. In a week or ten days it will heat strongly; then lay aside the litter again, and turn the heap over, placing the top at the bottom, and the outsides to the middle, shaking it well and regularly, and wetting any part extra dry, and covering again as before. For purposes of nicety another turning, at least, will be necessary: the great thing is to get the rank steams dispersed without greatly lessening the bulk. The more decomposed the material, the more diminished will the quantity be, and the shorter the period it will be able to produce a continuous heat. Organic matter, such as dung and leaves, thoroughly decomposed by fermentation—just a natural kind of combustion—can no longer yield heat, though they may retain it when given, and hence be useful as a plunging-surface medium, and for keeping down steam when the material is not extra sweet.

Hence, in most cases, and especially in all such as the present, I disapprove of working dung, &c., too much in the preparatory heap. When the rank, sulphuretted hydrogen, &c., is expelled, I would have it built into the bed before the fibre was too much wasted. The frame being set, all the surface part will sweeten there as well as in the heap. A lady will not at once be able to detect, by smell, whether the inside be safe or not for her favourites; but she can easily note the colour of the drops of moisture that hang from the sash-bars in a morning. If they are of a yellowish cast, the bed must be trusted with nothing. If clear as the dewdrop, the bed may be trusted with anything, especially if a peg from an eighth to a quarter-of-an-inch is left tilting up the sash behind, night and day. This is a safe precaution for a week or two, and for cuttings should always be given at night at the season referred to.

After allowing for settling, such a bed of dung should be twenty-one inches at back and about seventeen in front; more at an earlier period, and less would do at a later period. In building the bed, set it out a foot wider than the frame all round, allowing it to taper to six inches wider at the top. Place the longest at the bottom and sides, and select the sweetest and most decomposed for the surface. Shake every forkful out well in building, and beat every layer of six inches or so firmly with the fork; but do not tread it. If not so beat the air would penetrate so easily, that you would have a violent heat, which would again dry up the material, and thus arrest decomposition, and the continuous heat which it gives. Free access to air will arrest decomposition, just as excluding it will do. If the material becomes dry, decomposition is arrested, and the heat reduced to a minimum. If the materials are beat or trod too firmly, the bed will heat irregularly, and the heat will go before the material is decomposed, merely because part has become firm and dry, and the de-

composing agents—moisture and air—cannot get at it.

Hence, again, one reason for not fermenting the matter too much before using it for such temporary purposes as striking cuttings in pots. In a great proportion of cases that seek our advice such material is limited. If the heat does decline a little, or a good deal, lifting out the pots in a good day, and protecting them, and giving the under stratum of dung a good turn over, will often be sufficient to give plenty of heat for another month or six weeks. Besides, a fresh supply of a few barrowfuls of sweet dung may be prepared, and, supposing the bed was rather shallow at first, a little of the fresh could be added at the bottom at a fresh turning. I have seen much labour spent on linings to beds, with no little danger from steam entering, when there was plenty of material for heating in the beds if moisture and air could have got at it. When the crop is a fixture, as in cuttings planted out, or in Cucumbers and Melons, there can be no turning of the material, unless the bed is placed on a platform, and the dung placed in a chamber beneath it. But in beds of cuttings, the same practice may be followed which I used to adopt when I grew Melons and Cucumbers largely on dung-beds. I did not waste the material too much in working it beforehand, provided I had a layer of sweet material for the top. When the bed was nearly finished, several long tubes of small earthenware draining-pipes, or anything else most handy, were fixed in the bed, outside and inside of the frame, and to a considerable depth from the surface. The upper end of these tubes was kept closed with a piece of slate, or a daub of clay. Inside, a small rod, or stake, was placed, with its lower end supplied with a little ball of moss firmly tied to it. When the heat began to decline, the rods, or stakes, were pulled up, and if—as was generally the case—the moss balls were dry, warm water was poured in at the tubes, and the ends left open for a time for the admission of air, and fermentation commenced afresh, and the heat could thus be renewed until the whole mass was nearly thoroughly decomposed.

With these hints, and a little practice, I have no doubt our lady correspondent will be soon perfect in hotbed management. Some gentlemen, in their wisdom, may imagine that some parts are too abstruse for lady-experimenters; but, with all respect for the lords of the creation, I must say, that from all that has come under my notice, ladies know far more of the theory and practice of gardening, and enter more thoroughly into it, than gentlemen. A little straw tied round such a frame, and hanging down over the sides of the bed, would keep all more snug and cleanly.

I find I can only say a word on propagating. In previous volumes the whole minutiae have been entered into. Here my space will permit nothing on theory; only a word or two as to practice. The exclusion of light and air is right, so far. The keeping of the cuttings from light, and giving no air, carried to an extreme, will not promote a *rapid vegetation*. Growing cuttings require, at first, a still, moist atmosphere, and what Mr. Beaton calls *twilight*, as respects light. But the more quickly the cutting will stand more and more sunlight and air, the sturdier will the young plant be. Extra shade is ever followed by extra weakness. Take a Verbena cutting, for instance. It was growing freely on the mother plant. All you have got to do, is to keep it healthy and vigorous, and it will put out roots in self-defence. No cutting in spring should ever be allowed to flag or hang its head. Expose it to a free current of air, and to the unshaded sunbeam, and it will flag from the loss of its moisture, and the fixation of its carbon. Keep it perfectly close, by bell-glass or otherwise, and the confined air will become impure, and, if much shaded, the top of the cutting will be drawn

out like a wire, while lengthening downwards in roots will proceed slowly. Place a bell-glass over the pot when plunged, when the foliage is dry; in the course of twenty-four hours tilt up the glass a quarter-of-an-inch on one side at night, put it close down next morning, and only shade when the sun gains power, so that the cuttings may have all the light, morning and evening, and only be shaded in the brightest hours. Tilt up the back of the frame at night, also, a-quarter-of-an-inch, or so. The cuttings will thus be kept sturdy, and the bottom-heat will cause rooting to take place before the tops think of lengthening. The frame may be syringed inside in the afternoon, without moving the glasses, at first, and this will secure a moist atmosphere, which enables the leaves to absorb as much as they perspire.

I have spoken of a bell-glass for illustration, but for such things they are not necessary. In such a bed, with the cuttings two feet from the glass, the shading necessary would only be required in the heat of the day. The frame should be kept close in the day, and a few dustings from the syringe would keep the atmosphere moist, and force the leaves to absorb as well as perspire. A little air at night, giving it earlier in the evening, and keeping it longer on in the morning, by degrees, will keep the cuttings robust and healthy. I am supposing that there is a sufficiency of bottom-heat. I know of no means for economising labour, in this respect, equal to placing the cuttings at a distance from the glass, proportioned to the strength of the sun's rays, and thus giving the cuttings unobstructed diffused light, instead of shaded direct light. The rooting proceeds faster, and the tops are less drawn and blanched. R. FISHER.

P.S.—In raising seedlings in such a bed, it is a safe plan to have a square of glass to place over the pot, and to have the soil for the seeds at least one inch from the rim of the pot. The plants may thus be strong enough to remove for pricking out before the square of glass is finally removed, and insects, &c., can less easily annoy them.

SELECT FLORISTS' FLOWERS.

A CONSIDERABLE number of our correspondents having written for information on the above subject, particularly wishing to know what there are on sale that are worth having, to add to their stock, I have determined to give a select list of twelve of the best new varieties, and twelve of the best old ones, thus guiding them in their choice, as far as my knowledge and experience extends. Mr. Keynes, the eminent grower and raiser of Dahlias, has already given a good list of that fine autumnal flower in a late number of THE COTTAGE GARDENER, and our esteemed friend, Mr. Beaton, has taken the Chrysanthemum under his fostering care, so I need not trouble our readers with any lists of those kinds of florists' flowers. I shall commence with

PELARGONIUMS.

TWELVE NEW SHOW VARIETIES.

1. *Amazon* (Foster).—Bright scarlet-erimson, with rich maroon spot on the top petals. A very free-blooming variety, requires to be grown in rich soil, and the first flowers nipped off. It flowers so freely that the plant is much weakened thereby. If all the flower-buds are allowed to remain, and open, the plant will be exhausted early in the season. This variety obtained the silver medal at the Regent's Park, as the best scarlet seedling, last July.

2. *Eva* (Hoyle).—A very distinct variety, such a flower as will please the most fastidious amateur. The bloom has a white centre, with the lower petals of a bright rose colour. The top petals are margined with the same colour, with a bright orange ground, and

black rayed spot. A bright, lovely flower. Obtained a first-class certificate at the National Floricultural Society last year.

3. *Evelyn* (Beek).—Pure white ground, with rosy-purple blotch on the upper petals; good form, free bloomer, and excellent habit. A good show flower.

4. *Juliet* (Dobson).—This variety is of a new and distinct colour. The lower petals are of a pale purple, mottled with plum colour; top petals purplish-maroon blotch, with a narrow margin of purple. The form is good, habit excellent, and it is a free bloomer.

5. *Leopard* (Hoyle).—As the name imparts, this is a spotted flower. Colour deep rosy-orange, with dark maroon spots on every petal.

6. *Meteora* (Foster).—A smooth-edged, well-formed flower. Ground colour very bright orange-scarlet, with a rich dark spot on the upper petals. Has obtained several prizes as a seedling. A striking variety, either for the greenhouse stage or for exhibition purposes.

7. *Mrs. White* (White).—Raised by — White, Esq., of Braintree, in Essex. A new candidate for seedling honours. This variety is a very firm flower, with the lower petals of a bright rose. The upper petals have a dark maroon clouded blotch, a great improvement on *Enchantress*. The flowers open well, bloom freely, continuing good throughout the season. Very attractive and striking.

8. *Pallas* (Hoyle).—White centre; lower petals bright rose; upper petals bright orange-red, with a black spot margined with rose; free bloomer, and constant. Obtained several prizes as a seedling last year.

9. *Prince of Wales* (Foster).—Clear white centre; cherry-rose lower petals; rosy-erimson upper petals; with a very dark blotch in the centre. A large, bold flower, of good form and substance. Obtained a certificate at the Regent's Park Exhibition.

10. *Rosa Mundi* (Beck).—Very distinct from any other variety. Lower petals bright rosy-purple; upper petals purplish-maroon, with a clouded blotch, shading off to crimson-purple. Form excellent; flowers firm; habit good, and a free bloomer.

11. *Sultan* (Dobson).—A very rich flower. Lower petals bright crimson; upper petals margined with the same colour round a dark maroon blotch. A free bloomer. Form good, and habit excellent.

12. *The Clipper* (Foster).—Upper petals black, with a broad margin of erimson; lower petals bright erimson, approaching to scarlet. A rich flower, of good form and habit.

Prices from 21s. to 31s. 6d.

TWELVE OLDER SELECT VARIETIES.

1. *Cloth of Gold* (Foster).—A bright, showy flower. A free bloomer. Dark maroon upper petals, with a scarlet margin; lower petals orange-scarlet.

2. *Conqueror* (Beck).—A smooth, constant flower, with erimson-scarlet lower petals. The upper petals are margined with the same colour round a large blotch of purplish-erimson. Good form, free bloomer, and excellent habit.

3. *Conqueror* (Gaines).—Brilliant scarlet ground colour, with a dark erimson spot on the upper petals. A great acquisition to its class.

4. *Eugenia* (Hoyle).—A spotted flower, that is, each petal is of a bluish colour, with a dark spot in the centre. Good form and habit.

5. *Fair Ellen* (Story).—A desirable novelty, of good quality. Lower petals white, dark blotch of maroon on the upper petals, tinged with earmine, shaded off to the margin with pure rich earmine, surrounded with a well-defined belt of pure white. Smooth edges, free bloomer and dwarf habit.

6. *Lord Cardigan* (Turner).—A dark variety, with

scarlet margin. Lower petals bright crimson, with a dark spot on each. Very striking, handsome variety

7. *Petruchio* (Fouquet).—This is a large, showy, free-blooming variety, that ought to be in every collection, being very effective on the greenhouse stage, as well as for exhibition. Trusses very large, form good, and habit excellent. Lower petals rich crimson; maroon spot on upper petals, with a distinct margin of crimson.

8. *Phaeton* (Foster).—A bright flower, of fine habit. Lower petals bright scarlet orange; top petals crimson with dark spot, edged with scarlet; glossy surface and smooth edges. Very desirable.

9. *Tête noir* (Gaines).—Upper petals velvety black; under petals shaded orange, with a black spot on each; white centre; good form. The greatest novelty ever seen.

10. *Una* (Henderson).—A free-blooming, white variety, with carmine spot on the upper petals. Large trusses, and excellent habit.

11. *Wonderful* (Hoyle).—A large flower, of excellent form and habit. White centre, dark top petals, with deep rose under petals, shaded with orange. Free and constant bloomer. A noble variety.

12. *Vesper* (Cant).—A spotted flower like *Sanspareil*, but different in the ground colour, which is a pure white. Consequently the spot on each petal is more conspicuous and distinct.

Prices from 2s. 6d. to 10s. 6d.

T. APPLEY.

(To be continued.)

PROTECTING AND PROMOTING THE GERMINATION OF SEEDS.

THERE are few things more annoying to the cultivator than to find that certain important crops fail entirely owing to the seeds not germinating, or, which amounts to the same, the young seedlings dying off before they are visible to ordinary eyes. This is very often the case with such plants as the *Carrot*, the whole of the *Cabbageworts*, and, in fact, all plants originating from small seeds. Larger and coarser-growing things, though to some extent liable to similar disasters, rarely disappear without leaving some traces of their existence. *Peas* and *Beans* are, generally, visible for a greater or less period; but *Carrots* sown on rough ground, and in a wet season, very often present thin, small, delicate seed-leaves to the view of their sharp-sighted enemies only, and the mischief is often completed before we get a glimpse of them. Now, as this crop suffers, perhaps, more than most others from the depredation of insects, and as a cure for this is not half so useful as a preventive, it would be well to see if some measures could not be adopted to preserve the crop against the evils with which it is threatened; and as *Carrots* are often not sown until late in the season, and, consequently, may be fully expected to vegetate soon after being committed to the ground, it is good practice to go over the ground with the lime basket about a week after this sowing, and assiduously dusting every part of the ground with this useful agent of insect destruction. Very early in the morning is the best time, or late at night, when the weather is mild. The object being to render the plant distasteful to the depredators, that they allow it to grow on without interruption until it be too large for their attack.

In addition to this preventive treatment, it has often been suggested that any means which would accelerate the growth of the plant, and so place it out of the reach of its enemies, would have a like desired effect, consequently, the employment of Guano and other fertilisers, from time to time, have been recommended. The quality of the ground from its previous management having like-

wise its due influence in the matter as well. At all events, it is prudent to adopt either the one treatment or the other where an important crop is at stake; and, as the means are by no means expensive or difficult, it is right in all cases to adopt them.

A similar protection is useful to save the various *Cabbageworts* and other things from injury. Soot, or wood-ashes, is equally useful as lime for this purpose; and in dry weather it is prudent to mix sulphur with the seed, being careful to rub the seed with it as much as possible as well. In some cases this is a preventive to the Turnip-fly, and although it is not always efficacious, it is so in a great measure, and tends to lessen the evil at all times without doing any harm.

It is not generally known that one of the greatest nurseries for slugs and similar vermin are Box-edgings; and, as it happens that seed-beds are often on borders near such edgings, the enemies to vegetation have little to do but sally out at night and fill themselves, and return before day-break to their snug quarters again, to repeat the same thing another night. This is partly prevented by laying a furrow of lime or soot along by the sides of the Box, or other edging, to prevent these obnoxious destroyers from invading forbidden territories, taking care to dust the ground over as well. It is also prudent, where the ground is rough and does not work well, to add a little fine earth at top, to form a level, closer surface, mixing sand or coal-ashes with it as well; but in large breadths of cropping-ground this cannot be done, and the only way is, to make the top as smooth as possible by rolling, or otherwise working it down, without at the same time pressing it in such a way as to consolidate the under surface too much, which will assuredly be the case if done in wet weather.

The watering of seed-beds is a more critical practice than is generally thought, for in most cases the ground of itself contains sufficient moisture to secure the purposes of germination; but, in settled, dry weather, at midsummer, a good watering, followed by shading, will have a more beneficial effect than oft-repeated deluges of cold water; and some seeds do not vegetate well unless some artificial moisture is supplied. *Peas*, for instance, will remain unsprouted until some destructive insect has deprived them of the power to do it, and decay, instead of germination, is the consequence. *Kidney Beans* do the same, and, in fact, most seeds suffer from a like cause; besides which, it sometimes happens that by the accidental position of the seeds sown, some get buried sufficiently deep to grow at the proper time, while some do not, but come up afterwards, making two crops of different ages, to the disparagement of the whole. Where this is likely to be the case, it is prudent to water the ground well before sowing the seed, and cover up with dry material, adding shading at top as recommended before. *Peas* and *Kidney Beans* may be soaked in cold water a few hours before sowing, or the drill well watered for them, and they will generally grow pretty freely afterwards. It has been recommended to steep such seeds in liquid-manure, in order to impart some additional vigour to them in their growing state; but this cannot always be depended upon, for the quantity which each plant takes up in solution cannot maintain the plant long without assistance elsewhere, and if that source is not a good one, the result cannot be satisfactory; but this is a fine field for the enthusiast to experiment upon, and, although there is no doubt but some useful results must follow judicious appliances of this kind, I cannot fall in with all that has been said on this head by theoretical writers on Vegetable Physiology.

J. ROBSON.

DAVID GORRIE.

IN a recent number we announced the premature death of Mr. DAVID GORRIE, who has for several years been fa-

vourably known in Scotland as a successful and entertaining writer on gardening and rural affairs. He was the youngest son of Mr. Archibald Gorrie, of Annat, near Errol, Perthshire, who himself has, for nearly half-a-century, been a valuable contributor to the current literature of the period; a sound practical man in all matters relating to gardening and agriculture, a close observer of nature, and now one of the few connecting links which are left between the former age and the present.

Mr. David Gorrie was born at Annat Cottage, in 1822; and, from the seventh year of his age, it was discovered that he was afflicted with an enlargement of the heart—a disease which medical men informed him might produce sudden death, and which, during his life, prevented him from entering on any active pursuit. For the last three or four years of his life he had been engaged at Borthwick Hall, the residence of Charles Lawson, Esq., in laying out the grounds, and superintending the planting and landscape decorations; and there he died suddenly on the 12th of March last.

We extract from the *Perthshire Courier* the following excellent tribute to Mr. Gorrie's memory:—

"Mr. Gorrie fell a prey to a hopeless malady, under which he had laboured, we believe, almost from infancy. A valuable life has thus been early cut off; and a career, as hopeful as under such affliction any career could be, has been early stopped short. Of the most retiring habits and unobtrusive manners, Mr. Gorrie was, personally, we daresay, little known in the world; but he has left behind him many memorials, which will make him be remembered, after not a few, who have been more prominent, shall have long been forgotten. Unable to enter very actively into business, he gave himself early up to a life of literature; and amidst the depressing influences of his bodily ailment, prosecuted his congenial labours with surprising energy and devotion. Deeply imbued, we believe, with the spirit, and much sustained in his afflictions by the power of our holy religion, he has at the age of 34 been cut down, young in years, but abundant in works of enduring value, and full of promise.

"Mr. Gorrie's favourite study was agriculture and cognate subjects. Early associations and training probably commended the whole circle of rural economy to his partiality, and subsequent study seems only to have deepened and developed the preference. But, as will appear, he by no means confined his attention to these subjects. Religious and historical topics each occupied his thoughts, and formed the subjects of some of his most successful writing.

"For the able articles which have from week to week appeared at the head of this department of our Journal, during now very nearly the past three years, we have been indebted to Mr. Gorrie. Of the interest with which he uniformly invested every branch of the comprehensive subjects he discussed and illustrated—whether Agricultural, Arboricultural, or Meteorological—we have the best reason to believe there has been but one opinion among our readers; while to the extent and accuracy of his acquaintance with these topics, and the soundness of his judgment regarding them, we have had the repeated testimony of the most competent authorities. Seldom, we are assured, have so strictly professional subjects been more accurately, and at the same time more popularly and engagingly discussed, than have those rural topics been by Mr. Gorrie in these columns. But Mr. Gorrie's contributions to the *Perthshire Courier* were not confined to the articles of the 'Farmers' Journal.' We have frequently been indebted to him, besides other contributions, for literary notices and reviews of new books. One in particular we may be allowed to adduce, as manifesting his varied information and the uniform ability he brought to bear upon the discussion of the most opposite subjects. The review we refer to was of the later volumes of Miss Strickland's 'Lives of the Queens of Scotland,' which appeared in the *Courier* of February 21. Although we had previously reviewed the same volumes, and had taken a different view of the subject of it (the life of Queen Mary) from Mr. Gorrie, yet such was its manifest ability and independence of thought, that we felt constrained, under reservation of our own opinions, to give it a place. And this review, we may add, received the distinguished compliment of a graceful acknowledgment by the gifted lady whose views it adopted and advocated.

"But Mr. Gorrie's services were not confined to this Journal. He was a large contributor to the periodical press of the day. One of his earliest productions—'The Plough Boy'—a series of six papers, if we remember correctly, in which he graphically and faithfully portrayed the early scenes and training of rural life, appeared many years ago in the *Perthshire Advertiser*. *Bell's Weekly Messenger*, the *Witness*, the *Northern Warder*, the *Dundee Advertiser*, and the *North British Agriculturist*, have all more or less shared the productions of his pen. He contributed, besides, excellent articles on religious topics to the *English Presbyterian Messenger*; and also able and valuable papers upon professional subjects to the *Quarterly Journal of Agriculture*. The work, however, upon which he placed greatest value himself, and the only regular book, so far as we know of which he was the author, was his 'Illustrations of Scripture, in Connection with Botanical Science;' a book, the merits of which not only secured commendatory notices in all the papers, but commanded a somewhat handsome price for the copyright. We very cordially pay this meagre tribute to the memory and merits of a gentleman of excellent talents, whose writings we have much admired, and whose valuable assistance we have so long enjoyed."

THE GOOSEBERRY CATERPILLAR.

IN looking over the back volumes of *THE COTTAGE GARDENER*, I find that great damage had been done last season, in the market-gardens round London, by the Gooseberry Caterpillar; that one market-gardener had employed a hundred women to pick them from the bushes, while others were dusting with soot, or washing with soap-suds, as a preventive. After reading all this, and sympathising with the sufferers, I feel it my duty to describe a more certain remedy for overcoming such a formidable and destructive pest. It is the plan of that old and very justly-esteemed and celebrated gardener, Mr. John Nicol, of Raith, in Fifeshire, father of Mr. Walter Nicol, the author of several works on Gardening and Forestry. Mr. Nicol was a man of superior talents and genius, a close observer, and, in his day, the best practical gardener in Scotland. It was in the year 1794, when I was at Raith, that I saw Mr. Nicol's usual mode of dealing with the Gooseberry Caterpillar. It was his general practice, about the month of April, to select two of his men, to whom he gave directions to examine the under side of the leaves of the Gooseberries for the eggs of the *Tenthredo grossularie*, or Gooseberry Saw-fly. This fly deposits its eggs along the veins on the under side of the Gooseberry leaf, and, by looking over the bushes once or twice a week, there may be one or two leaves on one bush on which the eggs may be found; and going from bush to bush, with a flower-pot in hand, in which to put the leaves, the work is soon done; indeed, a woman would go over five hundred bushes in a day. This was Mr. Nicol's practice every season, and he was never troubled with the Caterpillar.

It may be of advantage to some of your readers to say, that in 1844 I took possession of an old walled-in garden, which had been allowed to get into great disorder; indeed, it was more like a fox cover than a garden. I ordered all the trees and bushes to be taken up, and the whole of the ground trenched over. I then planted one of the quarters with strong Gooseberry-bushes. I did not reside at the place till August, after they were planted, and by that time my fine bushes were completely stripped by the Caterpillar. Shortly afterwards, being in Edinburgh, and seeing a large quantity of tan at a tan-yard, I gave instructions for some sacks to be filled with tan and sent to my place. I had some of it put round every Gooseberry-bush, and the following season there was no Caterpillar. Thinking this might prove an effectual remedy, I made enquiry, and found there was a tan-yard about four miles distant from me, and by ordering three cart loads I completely covered the ground where the Gooseberries were planted. The bushes that season made very strong growths, and from that time till now I have seen no Caterpillar. It would appear, that while the bark is injurious to the insect it acts as a manure to the Gooseberry, for ever since I have had large crops, and the berries of good size.—ROBERT HOGG, *Bogan Green, N.B.*

NYCTERINIA SELAGINOIDES.

(SELAGO-LIKE NYCTERINIA.)



THIS has been known to botanists for about twenty years, but it was not introduced into our gardens until last year. This introduction was by M. Vilmorin, of Paris, and he called it *Nycteria villosa*, but *villosa*, according to Mr. Bentham, is only a variety of *selaginoides*, and it is not improbable that this may be that variety, for the calyx is characteristically fringed with hairs, and the entire herbage hairy.

Nycteria, is a name derived from *nycteros*, belonging to the night, because some of its species open their flowers and are very fragrant in the evening. The genus is included by the Natural Order of *Figworts* (*Scrophulariaceae*) and by *Didymia Angiospermia* of the Linnæan system.

N. selaginoides, like all the other species, is a native of the Cape of Good Hope, being found there on the sandy plains near the west coast. It is only four or five inches high, and is thus noticed in the Journal of the Horticultural Society:—"It is a very pretty greenhouse annual, forming a broad patch of pale, dull green, hairy herbage, arranged in the manner of a Candytuft. The leaves are linear-spatulate and slightly toothed; the uppermost quite entire and united to the tube of the calyx, than which they are much longer. The flowers are arranged much in the same manner as in Candytuft, forming a true corymb. They are pure white except the eye, which is a very deep-yellow cup, fringed by an exquisitely beautiful coronet of tiny yellow hairs. The tube of the corolla is very slender, an inch long,

and nearly smooth; the limb is flat, a little moved back, with five two-lobed equal divisions. It may be regarded as one of the prettiest summer annuals introduced for some years."

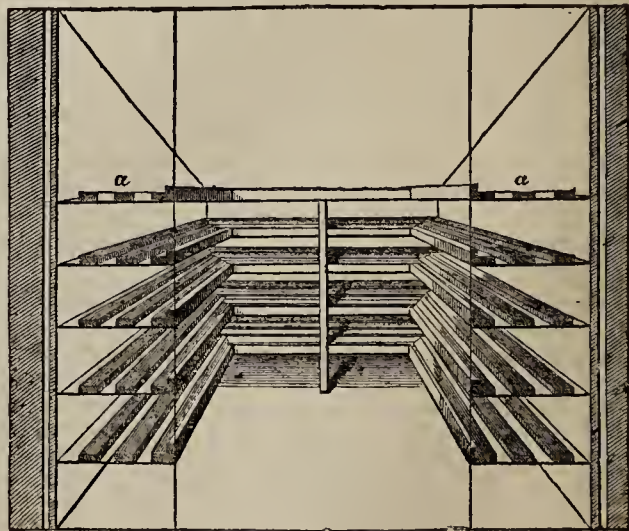
DESCRIPTION AND PLAN OF A FRUIT-ROOM BELONGING TO JOSIAH MOORMAN, Esq., CLAPHAM-ROAD; WITH SOME REMARKS.

By ROBERT THOMPSON.

THE supply of fruit in autumn is almost superabundant in favourable seasons, and in varieties there is then an ample choice. Many of these, however, are naturally of so short duration, that they cannot be long kept well under any circumstances. Means may be adopted for preventing their decomposition, but their flavour is frequently deteriorated or completely lost. In general, those kinds that ripen early soon decay; and a large proportion of the fruit cultivated by extensive growers is of this description, because it pays them better to take such at once to market than run the risk consequent on the keeping of later varieties. Hence we find that towards Christmas the quantity of fruit, of Pears more especially, is greatly diminished, and that the choice is reduced to comparatively few sorts. Such favourites as the Marie Louise and Beurré Bosc are not to be had under ordinary circumstances. In January the scarcity becomes greater, and Jersey Chaumontels make their appearance, imported at the high price of, not unfrequently, five pounds per hundred; whilst well matured specimens of the Easter Beurré and Beurré Rance are in request, leaving the greener and less perfect of these, and a few of some other sorts, to make occasionally the appearance of supply during the spring months—quite inadequate, however, to meet anything like a regular demand, such as would certainly be made if Pears could be well kept in abundance till that period.

The high state of perfection in which fine specimens of Pears have been frequently exhibited to the Society by Mr. Moorman at periods of the season much later than the varieties usually keep, rendered it very desirable to obtain an account of the method by which these were preserved in such admirable condition. On applying to Mr. Moorman he kindly afforded every information with regard to the mode by which his Pears are kept; and he also permitted Mr. Sibthorp, the Superintendent of Works at the Society's Garden, to make the accompanying drawings, which will give a correct idea of the place.

The room was not originally constructed for a fruit-room; but, by a little adaptation, Mr. Moorman has succeeded in



Interior View.

rendering it a most excellent one, as is proved by the prizes awarded for the productions exhibited from it—not in any one year, but repeatedly, year after year. It is a partitioned-off portion of a loft, which extends over a coach-house and

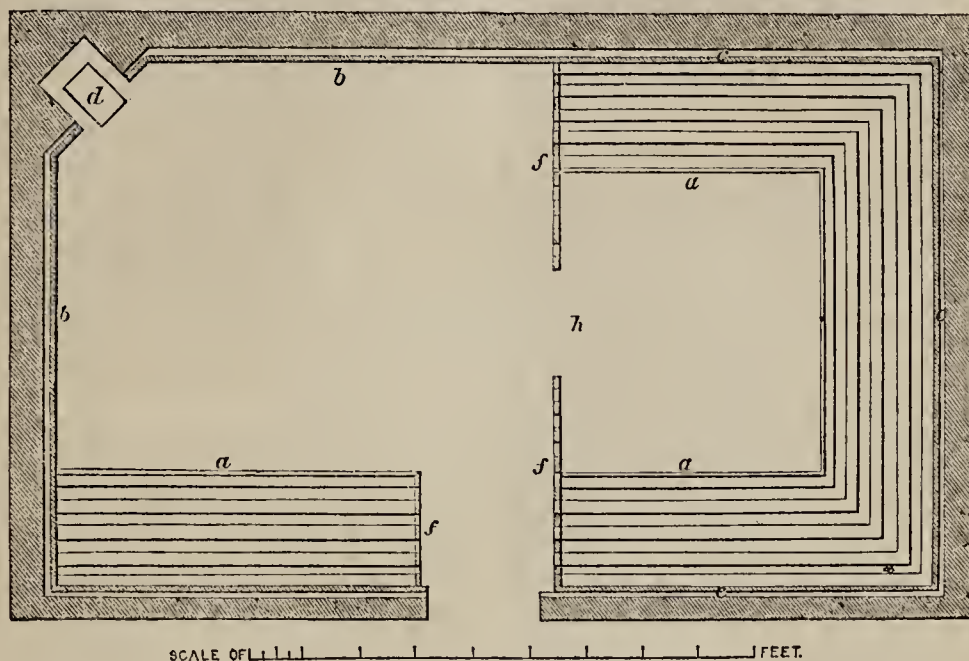
stables, and is that part which is above the coach-house. It was originally fitted up for a harness-room, the walls, as is usual in such places, being lined with wood. The roof is slated. The range of building is detached, and faces the south-west.

It will be observed that there is a cavity, *c*, between the boarding and walls. This, I believe, is an important circumstance, and so is the wooden lining, because air and wood are known to be slow conductors of heat. The ceiling

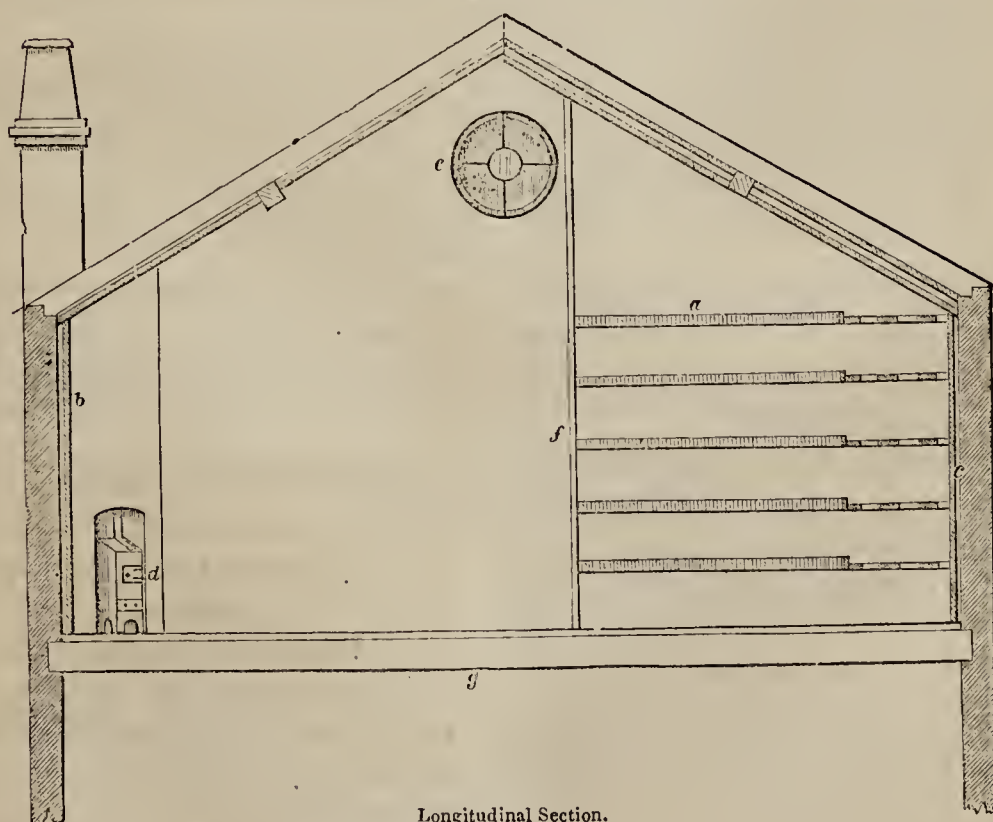
on the north side is double, and the floor is wood above a ceiling. We may therefore conclude that a *uniformity of temperature* in the interior of the room is insured to a considerable extent.

There is the small stove, *d*, but it is seldom used, and never with the view of warming the air of the room unless the temperature is actually below freezing. The fruit is therefore *kept cool*.

The swing window, *e*, is occasionally a little opened; but



Plan of Mr. Moorman's Fruit-Room.



Longitudinal Section.

EXPLANATION OF THE LETTERS.

a Shelves made with battens, one-inch-and-a-half wide and one-inch-and-a-quarter apart.
b Close boarding around the sides of the room.
c Air space between the boards and the wall.

The roof also has an air space on the north side between the two plaster ceilings, as shown on the section.
d Stove.

e Circular window hung on pivots, and fitted with a roller-blind.
f Partitions of open work similar to the shelves.
g Coach-house under fruit-room.

it is all times covered with a roller-blind, so that the fruit is kept in the dark. A little fire in the stove, air being freely admitted by the window at the same time in a dry day, is useful for speedily removing any damp which may arise from the fruit.

The shelves, *a a*, have a layer of clean-drawn straw laid across them, and on this the fruit is placed singly.

From a consideration of all the above details it may be inferred that if a fruit-room be built over a place where there is a free circulation of air, its roof double ceiled, the walls lined with wood, a cavity being left between these two, it will possess the essential properties of the one under consideration.

The more important principles necessary to attend to with regard to the long keeping of fruit are *uniformity of temperature, coolness, and darkness*.

If the temperature is uniform, there can be little or no deposition of moisture on the surface of the fruit; but if the air of the room should be, say ten degrees warmer than the fruit, then the relative coldness of the latter will cause a condensation of the moisture contained in the air in contact with the fruit, just as a cold glass becomes dewed over when brought into a warm atmosphere. If the air is indeed very dry, then a proportionably greater difference of temperature is necessary to produce the above effect; but in winter the hygrometer seldom requires to be cooled more than a few degrees before it indicates a deposition of moisture. Fruits with smooth, glossy skins, in close contact with the cold substance beneath them, are those most profusely covered with moisture from the above cause. In russeted varieties their dry, rough coats serve as non-conductors of heat, and hence less moisture is deposited on them. When the air becomes colder than the fruit, a contrary action—that of evaporation—takes place, and the surface of the fruit becomes dry. But this wetting and drying must prove very injurious; whilst its cause, alternations of temperature, must likewise affect the specific gravity of the juices of the fruit. Mr. Moorman's fruit is not exposed to such vicissitudes; for when the weather becomes frosty, it is several days before the thermometer in his fruit-room is affected as much as one degree.

It may be remarked that in giving air a period of the day should be chosen when the thermometer outside indicates the same temperature as that in the room. No deposition of moisture can then take place in consequence.

With regard to *coolness*, it is well known that this condition is favourable to the long-keeping of fruit; for we act on the contrary when we wish to render any variety fit for use before its usual time. The fruit-room in question must be cooler on an average than if it had been on the ground; for the latter, under a building particularly, is much warmer than the air in winter.

Light accelerates the maturity and ultimate decay of fruit exposed to its influence. If the soundest specimens are picked and placed opposite a window, they soon become much inferior in appearance compared with those from which the light is excluded, all other circumstances being the same. In Mr. Moorman's fruit-room the light is excluded by a blind even when air is given.

By such arrangements as those above detailed, Mr. Moorman keeps the Marie Louise in fine condition till after Christmas. He possesses a selection of the best varieties of Pears, which he grows chiefly on espaliers, which are well managed by his gardener, Mr. Tucker, in the Clapham-road. He had some remarkably handsome specimens of the Winter Nelis in his fruit-room in January, much larger than that excellent variety usually grows. We have also seen very large specimens of the Marie Louise, grown at his seat at Box Hill, in Sussex. The tree which produced them is trained against the gable end of a barn, about a quarter-of-a-mile from the sea, and this tree is exposed to the strong sea-breezes from the south-west. It was planted in good soil, and a spring below it was discovered when digging the hole for the compost previous to the tree being planted.—*Journal of Horticultural Society*.

WILLIAM STEPHENS, ESQ.—We regret having to record the death of this liberal patron of gardening. He died at his residence, near Reading, on the 20th of April.

GARDEN HERBACEOUS PLANTS.

DELPHINIUM.

To those who cultivate hardy plants, either for exhibition or decorating the beds of their flower-garden, few are better adapted, or more generally admired, than the numerous varieties of *Delphinium*.

Our first acquaintance with this genus reminds us only of several strong-growing species more suitable for the shrubbery than the flower-border, but the decided improvement on the newer varieties places them in a position amongst our very best herbaceous plants.

They are all of easy cultivation, requiring no peculiar soil or situation to develop their beauty, but if grown as bedding plants, they should be divided into small pieces about the end of March, in order to prolong their season of bloom. We have found *Magnificum* one of the best for this purpose, and if treated as we describe, will continue to flower in profusion from the beginning of July to the end of September.

When cultivated as border plants, we would recommend them to be taken up and divided every second year, to prevent them from getting too tall and coarse.

Many varieties have appeared in nursery lists, most of which we have cultivated, and found the following worthy of our recommendation:—

D. BARLOWII.—Stems averaging from three to four feet high; spikes eighteen to twenty-four inches; flowers deep blue, semi-double.

D. BEAUTE DE CHARONNE.—Stems about two feet high; flowers single, bright blue, large and showy.

D. ELATUM ALBUM.—Stems four to five feet high; flowers blue, with white centre; smaller than *Mesoleucum*, which it otherwise resembles.

D. ELATUM PLENUM.—This is also a tall variety; spike of flowers often three feet long, dark blue, semi-double.

D. FORMOSUM.—A new variety sent out last autumn, apparently in the way of *Hendersonii*. The flowers seemed to us somewhat larger. It is said, also, to produce better spikes.

D. GRANDIFLORUM MAXIMUM.—Stems four feet high; spikes long; flower deep blue, double. A noble and striking plant when well grown.

D. HENDERSONII.—Stems three feet or more high; flowers large, single; petals of the true variety broader than in *Magnificum*, of darker blue, and duller white centre.

D. HUMIL.—Stems one-foot-and-a-half high, dividing into numerous branches; flowers deep blue, double; very distinct.

D. HYBRIDUM FLORE PLENUM.—Stems three to four feet high, bearing beautiful spikes of bright blue, very double flowers. Distinct from all others, and in our estimation one of the best.

D. MAGNIFICUM.—In general habit similar to *Hendersonii*, but with flowers lighter blue, narrower under petals, and whiter centre.

D. MESOLEUCUM.—Stems about four feet high; flowers dark blue, with white centre. Very attractive.

D. MOORII.—Stems about four feet; flowers single, dark blue.

D. WHEELERII.—Stems three feet high, strong and erect; flowers light blue; spike dense and compact.—JAMES RAE, *Edinburgh*.

QUERIES AND ANSWERS.

GARDENING.

PRESERVING STORE FRUIT.

"Fruit-eaters, like myself, who find difficulty in supplying their wants from May to Strawberry-time, would feel obliged by a detail of the method adopted by Mr. McEwen, for keeping Pears and Apples, to which you refer in your number of the 15th, in reporting the proceeding of the Pomological Society.

"By packing in sand, or dry sawdust, Apples keep well enough with me, but they not only lose their flavour, but absorb so much of that of the material they are packed in, as to make them thoroughly distasteful.

"A few hints as to the fitting up of a fruit-room will be acceptable, when you have time and space for it. Is a dry

cellar, or an upper room better? What is the maximum and minimum temperature (which might be regulated by introducing ice), within which the fruit will not deteriorate? If shelves, what is the best material—wood, basketwork, wire, or netting? Do Pears require a different treatment from Apples, &c.?—WILLIAM MCGOWAN."

[To these queries, Mr. McEwen has much obliged us by sending the following reply:—"The main requirements of a fruit-room are an equable temperature from 40° to 45°, dark rather than light, close rather than airy, at the same time strictly avoiding damp. Remember that air and damp are aids to decomposition.

"In building a fruit-room, let the walls be thick or hollow, and use thatch for covering the roof, rather than slate or tiles. If shaded by trees, or buildings, and the walls covered with creepers, all the better. The windows should be fitted with shutters, and no fire-place is required. Common drawers are very useful, and shallow tin drawers are also first-rate. These prevent evaporation. Wrapping the fruit up in clean paper also keeps Apples and Pears fresh and plump, but slightly deteriorates their flavour.

"Another excellent plan for long keeping, is to select the freshest fruit about Christmas, not sooner, and wrap them in paper, put them in silver sand, and bury them in the earth, in a dry place, or on the floor of a cool cellar or barn.

"Fruits will also keep well in glazed earthenware crocks in similar positions.

"These remarks have met most of the questions put, and those not replied to, I proceed to answer, viz.:—Is a dry cellar or an upper room better?—The dry cellar. What is the lowest temperature within which the fruit will not deteriorate?—Frost will not injure it much if the room is kept dark; but for immediate use, the covering or protection should be such as not to allow the cold to go to that point. If shelves, what is the best material?—Any well-seasoned wood, it does not matter which, and have it painted, say a stone colour, so as the shelves can be nicely washed, at least every season.

"Do Pears require a different treatment from Apples? No, not generally. Packing in sawdust is certainly bad.—GEORGE MCEWEN, *Arundel Castle*."

LINUM GRANDIFLORUM.

"I notice a letter in your Journal concerning *Linum grandiflorum rubrum* advertised in many seed catalogues as 'Scarlet Flax.' Now, as real *Scarlet Flax* would be a beautiful thing, I should be glad if any of those who advertise it will tell me where I can see it. For the last two years I have bought the seed from good-rate houses, paying a shilling for about twelve seeds. Though I attended most carefully to them, out of two packets none came up. From a third, bought from a dealer, in whose catalogue it was described as 'bright scarlet,' 'new,' 'true,' and 'splendid,' I raised several plants, which produced flowers of a pale sickly pink, not worth a place in any garden, and which showed no disposition to be perennial, as described by some.—C. W."

[There is no such thing as a *scarlet Linum*. Any man who sold plants or seeds under such a name is liable to the penalties due to dishonesty. The *Linum grandiflorum* is far from being a "sickly pink" flower. We have all along warned amateurs from depending upon seeds or seedlings of *Linum grandiflorum*. There are but few of our very cleverest gardeners who have not failed with these seeds; but some one, by accident, will discover the right treatment, and then we shall have beds of it, and every one can grow it. Till then, let the plant rest as it is; but all who have plenty of money to risk, and time at command, ought to join the gardeners in experimenting on it. Twenty years were spent by the profession trying to raise the *Lilium giganteum* from seeds, and about twenty other years may be spent on this *Linum*, before ordinary people can manage it.]

BULBS FOR AUTUMN-FLOWERING.

"Would you be good enough to name a few Bulbs that I could plant for flowering after the Verbenas, &c., in the autumn?—A. SMITH."

[This is altogether impracticable in our climate. 'Verbenas, &c.' have not done flowering till October, and Snowdrops are the first bulbs that will flower after that time.

It would not be a bad idea, however, to plant a bed with "Naked Ladies" (*Crocus nudiflorus*, *serotinus*, and *sativus*), and then plant it with *Verbenas only*. The green of the Verbenas would well compensate for the want of leaves to these Crocuses while they are in blossom in the autumn. There are many more kinds of Crocuses which bloom only in the autumn, but we are not aware of their being on sale.]

CULTURE OF CALANDRINIA UMBELLATA, AND RICINUS RUTILANS.—PEACH AND NECTARINE BLOSSOMS.

"Can you give me any information about the *Calandrinia umbellata*. I had a plant given me last year, which never flowered, has survived the winter, and is now like a miniature Furze-bush—does it require peculiar soil? Do you know *Ricinus rutilans*? Have you had complaints about the destruction of the blossom of *Peaches* and *Nectarines*? In these parts (Kingsbridge, Devon), where we are not often called on to shelter, all the blossom has fallen off, after a beautiful show.—E. H. C."

[If your plant is really the *Calandrinia umbellata*, you will have a perfect little gem ere long, thickly studded with little rose-coloured flowers. It is seldom kept over the winter, but is generally grown as a half-tender annual, and when sown in the open ground, about the end of April, or under glass, in March, and pricked out in May, produces its flowers very freely in summer and autumn, on little, trailing, succulent plants, a few inches in height.

There is no *Ricinus rutilans*, but there is a *Ricinus rutilans*, a half-hardy biennial, with reddish stalks and reddish-white flowers, belonging to the *Palma Christi* group. Seeds sown in a mild hotbed in spring, will give plants that, if placed in the borders in June, will bloom about September. The *Ricinus communis* is the castor oil plant.

Peaches and *Nectarines* have been but little injured in some places, so far as we are aware, but *Apricots*, in many places, have suffered severely. We lately saw a fine crop set, but even of these a vast number of blossoms, at a distance from the wall, had been completely scorched up, the frost acting towards them as a blaze of lightning might be supposed to do. In Bedfordshire, the *Peaches* and *Nectarines* promise a good crop; so they do in Cheshire, and on high-lying gardens in Hampshire, but in the low grounds the failure is total.]

HINTS TO YOUNG BOTANISTS ON THE LEADING FEATURES OF THE LINNÆAN SYSTEM.

A BEGINNER in the study of plants naturally adopts the Linnæan or Artificial System of classification as being less difficult (or generally considered so) than what is called the Natural System. The Linnæan System is, however, not wholly an artificial one, and it is better that the beginner (as well as the student who has made some progress in it) should be informed how far it is so, so that he may be led to study not so much the system, or arrangement of Linnæus, as the plants themselves, and be taught to use his "Flora," with the plants arranged in their classes and orders, not so often as a mere catalogue or index, but as a help to his own observation and study.

The whole Vegetable Kingdom falls naturally into two great divisions: 1. Plants with, and 2. Plants without, flowers. The great Swedish naturalist divided the first of these into twenty-three Classes, making the second a twenty-fourth Class. The latter (the non-flowering plants) have been divided by Dr. Lindley into two Classes: 1. *Thallophytes*, which includes Seaweeds, Funguses, Lichens, and similar plants; and 2. *Acrophytes*, including Mosses, Ferns, &c. With the plants belonging to these two Classes we are not, at present, concerned; their natural divisions are so well marked that artificial classification is there unnecessary; but with the flowering plants it is otherwise: there the natural affinities of many of the genera are obscure and

difficult to determine, which is sufficiently proved by the fact, that we have had, of late years, almost as many systems of classification as there have been writers on the subject; nay, we have one great living authority who has more than once re-constructed his entire system. There are, however, many points on which the later systems are agreed, which may be taken as the generally-acknowledged features of what is called the Natural System.

Our present business, then, is to enquire how far the Classes of Linnaeus agree with the Classes and Orders of the Natural System.

Writers on the Natural System of Botany divide all flowering plants into two great Classes:—ENDOGENS and EXOGENS, distinguished by well-marked characters, which, stated briefly, are as follows:—

I. IN EXOGENS.—1. The increase in growth by the addition of the new layer of woody and cellular matter is *at the outside*, immediately under the bark. 2. The leaves have reticulated (or net-like) veins. 3. The parts of the flower (petals, sepals, and stamens) are generally distributed in fours or fives. 4. The young plants have two seed-leaves (or cotyledons), and the plants are, therefore, called DICOTYLEDONS.

II. IN ENDOGENS.—1. The increase in growth (in the case of perennial plants) is *in the centre* of the stem. 2. The leaves have, with few exceptions, parallel veins, often found sheathing the stem. 3. The parts of the flower are distributed in threes (or a multiple of three). 4. The young plants have usually but *one seed-leaf*, and the plants are, therefore, called MONOCOTYLEDONS.

Now, if we turn to the System of Linnaeus, we find no recognition whatever of these two great Classes; but both are classed together, as though no such difference existed. It does happen, indeed, that far the larger number of monocotyledonous plants fall into five of the Linnaean Classes: Triandria, Hexandria, Enneandria, Gynandria, and Monœcia; but the rest are scattered by ones and twos among several of the other classes. This will give us a first insight into the Linnaean System: it often turns out to be nearly correct, but contains a large number of exceptions. It was said above, that one of the distinctive characters of the Natural Class Endogens, is that the parts of the flower are arranged in threes, hence we see how it is that the three Classes of Linnaeus—Triandria, Hexandria, and Enneandria—contain many of the Monocotyledons; those three Classes being distinguished respectively by having three, six, and nine stamens. The Linnaean Class Gynandria consists almost entirely of the Natural Order *Orchideæ*.

To proceed, then, with our examination of the Linnaean System. This is called an artificial system, and justly, for the mode of arrangement in the first eleven Classes is according to the number of stamens found in the flower. In three of these eleven (the third, sixth, and ninth) we have seen that the grand primary distinction between Exogens and Endogens has been partly hit upon; but in the other eight (viz. Mon-, Di-, Tetr-, Pent-, Hept-, Oct-, Dec-, and Dodec-andria) the great naturalist was not so fortunate; for in all these very dissimilar plants are brought together, and similar plants separated in a forced and unnatural manner. The same remark also applies to the twenty-first and twenty-second Classes (Monœcia and Diœcia, characterized respectively by having barren and productive flowers on the same and on different plants), and also to the twenty-third Class (Polygamia), which consists only of one (British) genus, *Atriplex*, unnaturally separated from the *Chenopodiums* of Class 5. Another material defect of this System may here be added, viz., that in some Classes—nay, even in some genera—the number of stamens (which are taken as a basis of classification) are found to vary on different plants of the same Class, genus, or species, and occasionally even on different flowers of the same plant.

Let it be borne in mind, that our object in pointing out these faults in the Linnaean arrangement is merely to help any young observer who may wish, after having swam with the corks of this System, to explore further into the depths of the science of Botany by the aid of the Natural System.

But the Linnaean System is not wholly artificial, and we have hitherto been viewing its defective sides. Eight Classes have not yet been mentioned; in these the *position* of the stamens rather than their *number* is taken as a basis of

classification; and they are found to correspond very nearly with certain well-marked natural groups or orders.

The first of these which remain for our notice is the twelfth Class (*Icosandria*). This corresponds pretty nearly with the Natural Order *Rosaceæ*, a very large tribe of plants distinguished both for beauty of appearance and excellence of taste. We need only allude, by way of illustration, to Roses and Potentillas, Dropworts and Hawthorns, Pears and Apples, Raspberries and Strawberries; all belonging to *Icosandria* and *Rosaceæ*.

The thirteenth Class (*Polyandria*) consists of plants much resembling those of the twelfth, being 5-petaled flowers, with numerous stamens; but there is this important difference, that in this class the stamens are attached to the *corolla*, but in *Icosandria* to the *calyx*. The plants belonging to it, though often of great beauty, possess disagreeable, and often poisonous, properties. The plants of this class almost all belong to the Natural Order *Ranunculaceæ*.

The fourteenth Class (*Didynamia*) is also well-marked, and contains the two Natural Orders *Labiata* and *Scrophularia*; familiar instances of the Labiate plants being Mint and Dead-nettle; and of the Figworts, Snapdragon and Fox-glove.

The fifteenth Class (*Tetradynamia*) is exactly coterminous with the Natural Order *Cruciferae*; well known in the Turnip, Mustard, and like plants; the flowers of which have four petals, four sepals, and six stamens, generally, of which four are longer than the other two.

The sixteenth Class (*Monadelphia*) contains two Natural Orders, the *Geraniums* and *Malloes*, and part of another, the *Coniferae*.

The seventeenth Class (*Diadelphia*) consists, in its order of Decandria, of the Natural Order *Leguminosæ*, seen in Pea, Bean, and Clover plants.

The eighteenth (*Polydelphia*) contains only one British genus; also, a Natural Order, the *Hypericums*.

The nineteenth (*Syngenesia*) is another instance in which the Natural and Linnaean Systems are found to harmonize. The plants belonging to it are such as the Thistle, Sun-flower, and Dandelion, forming the Natural Order *Compositæ*.

The remaining five classes have been already spoken of; and thus we conclude our brief survey of the Linnaean System, in which the object has been to show the student how he may use it as a stepping-stone to the Natural System, by pointing out on what part of the stone he may step firmly and with confidence, and where he should be cautious. Some idea, also, may have been gained of the interval which separates the two, so that in passing from one to the other he will be less likely to flounder between them.—Mus.

CONSEQUENCES.

By the Authoress of "*My Flowers*."

(Concluded from page 10.)

It is a melancholy sight when an aged couple are sinking helplessly into the grave without the comfort of a child's affection or watchful care; when they disappear from the face of the earth, leaving none to come after them. During the earlier portion of Mr. and Mrs. Grosvenor's life children would have been rather a hindrance than a pleasure; and they would, probably, have grown up tainted—if not fully impressed—with infidel opinions; thus multiplying evil, and handing it down to generations yet unborn; yet, in the sad and pitiable plight in which they now stood, what a blessing would a daughter or a grand-daughter have been! *So it seems to us*; but blessings withheld by the Lord's hand would not have been such had we possessed them. Reader, if we can bring ourselves fully to believe this, how peacefully we shall sit down under privations, and how it will still the tempest that too often threatens to overwhelm us!

Mr. Grosvenor had no relations at all; but Mrs. Grosvenor possessed nephews and nieces, variously occupied, and unable to quit their avocations. One niece, however, was at liberty to leave home; and when the situation of her aunt and uncle became known to her she instantly attended them.

Mr. Grosvenor became rapidly worse, that is, weaker and weaker; still, he had no complaint, and his constitution was

unimpaired. As long as he remained in the sitting-room the scenes between the afflicted couple were still very sad. Mr. Grosvenor could not rise from his chair, nor lift the angry arm; but his words of wrath trembled with passion, and the flashing, violent eyes showed the unsoftened evil of the natural heart still. Excessive exhaustion followed these bursts; and oh! how dreadful to witness such a descent into the tomb!

Great anxiety was naturally felt by a niece on the subject of Mr. Grosvenor's spiritual state, and she immediately communicated with a clergyman of known piety, explaining the circumstances of the case. An interview took place between them; but, alas! the Unitarian spirit blazed up, and such sentiments were uttered that it closed quickly and painfully, and was never again attempted. A humble individual, whose good character Mr. Grosvenor had ever respected, called to see him on his sick-bed. He was but a Bath-chair-man; but he had always drawn Mr. Grosvenor about, and felt great interest about him. He was "a poor man, but rich in faith;" one who knew and loved his Saviour; and often the Lord chooses "the weak things of the world to confound the things which are mighty." This simple, humble Christian sat by the bed-side of the dying man, and strove to preach to him "Christ and him crucified;" but in vain. The dark, carnal heart refused to hear "the voice of the charmer;" and seemed to be now incapable of understanding what he had hitherto so madly put from him. At length overpowering weakness crept silently on, and it was no longer possible to leave his bed. His poor little wife was kept in the dusty parlour; for the very sight of her irritated him, and he begged she might not be brought near him. Oh! what a lesson this reads to thoughtless, reckless youth!

There, in that small back room, stretched on a weary bed, in a very dirty, comfortless lodging, lay the miserable Unitarian—miserable, for he had no "sure hope"—nothing to plead as a reason why sentence of death should not be passed upon him—nothing to brighten the dark valley—nothing to prop up his stumbling steps—nothing to give him a title to "the inheritance of the saints in light." He lay all the day and all the night in a sort of torpor; his eyes half open, and the expression of the face quite appalling. Sometimes he roused into consciousness, and complained of people and things which he saw around him, which no other eye could perceive; but he soon sunk again into a half-stupor, grievous to see. Thus wasted away the mortal part of one who was, what Scripture calls, a "strong man"—one who had no disease, nothing that could kill. His medical attendant said expressively, "He is not dying; he is only ceasing to live." Reader! many strong men amongst us may, in the fulness of strength and spirits, think the hour of death may never come; or they may feel so sound and safe, that they may forget the world beyond the grave. But let us all remember, that the day will come when we must, at all rates, cease to live, and let us get ready. No death-bed repentance must be trusted to; no ignorant, blind, dark, uncertain hope be rested upon. These will do us no service when "night" cometh; they can neither give us "rod and staff" to sustain our steps, nor "light" to guide us on our way.

There were some blessings mixed with the heavy affliction of imbecility. Mrs. Grosvenor never knew the loss of the man she had ever loved devotedly. Her mourning-dress was put on without remark, and to the close of her days she was an unconscious widow. She never missed her husband, but always spoke of his having just quitted the room, and that he would be back immediately. So far all was calm and comfortable, while her few remaining days passed away. Upon the first anniversary of Mr. Grosvenor's funeral his widow breathed her last.

Surely the consequences of sin are terrible. The first oozing of water, if not stopped, may lead to enormous and fatal destruction. The first simple act of disobedience led the thoughtless girl into a long life of misery; the first act of deceit led to the disobedience. Let young people, as they value their own happiness, ponder upon these facts, and profit by them; they may, by the blessing of God sought earnestly, teach them, and restrain them from great sins and heavy punishments. Young people generally cause much unhappiness to others before their own begins. They

seldom suffer alone; and the broken law of God does not rest alone on their heedless heads. They have also to answer for the broken, or lacerated, or grieved hearts of those who loved and sought their welfare, to whom they were, perhaps, as the apple of the eye. And "shall not I punish for these things?" "Vengeance is mine, I will repay, saith the Lord;" and "repay" He will, and does.

Oh, readers! have pity upon your own selves! Beware of the first beginnings—the first motions of sin in your hearts. See what they lead to! What the Lord has declared against the violation of His holy law! Mark, I pray you, in the history of Mrs. Grosvenor, disobedience and its consequences.

TO CORRESPONDENTS.

GLASS FOR GREENHOUSE ROOF (C. P. C.).—We recommend you to use Hartley's patent rough glass. Do not, however, depend upon this to save your plant-leaves from being scorched. Careful ventilation is quite as needful as subdued light and heat for preventing this.

CHINESE YAM (E. J. C.).—Any of the nurserymen or seedsmen who advertise in our columns can send it to you. You will find notes on its culture in our No. 379.

POTATOES TURNING BLACK (J. W.).—Do you mean that the leaves of the out-door crop have turned black? If so, the frost has been the cause. When Potatoes are up thus early, the earth should be drawn in a ridge on each side of them, and a little litter sprinkled over them.

BRITISH POMOLOGY (W. M'Gowan).—There is no probability of the second volume appearing very soon.

TAR VARNISH FOR IRON.—A correspondent at Sandbach says—"I notice in your number for March 25, page 463, a recipe for varnishing iron. Will you permit me to suggest an additional ingredient which I have found to improve the composition? Add to the turpentine and tar, when cold, 2 oz. sulphuric acid to each gallon, slowly stirred in."

HEATING GREENHOUSE FROM A CELLAR (W. R.).—We can see no objection to the site.

ISLINGTON GARDEN (L.).—All the plants you mention ought to grow there. *Tucsonia mollissima* will not do well in a pot.

NAMES OF PLANTS (W. L.).—1. *Amelanchier vulgaris*. 2. *Corydalis (Fumaria) solida*. 3. *Kennedy monophylla*. (A. B.).—1. We believe to be *Choroxema varia*. 2. *Fabiana imbricata*. 3. No one could tell from such an imperfect leaf.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close May 14th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray. **HULL AND EAST RIDING.** At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

PARIS. May 23rd to June 7th. Sec., M. M. E. Roubert, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

PRESCOT. July 3rd. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

REARING GAME.

LIFE is a continual succession of seasons, and each of these brings its duties, its pleasures, and its pursuits. Most of them require a preparation beforehand, and if it be true that the anticipation has more of satisfaction than the reality, it is only another proof how admirably we are

adapted to extract pleasure during a life which is not generally considered to abound in enjoyment.

No pursuits are so healthful and invigorating as those that are properly called field sports. Hunting and shooting are the principal of these; and while it is impossible for some to follow the first, there are few who cannot, more or less, indulge the second.

Fancy a man, caged, cribbed, and confined in London eleven months of the year, looking forward to the first two weeks of September and October. The change of scene; the enjoyment of the fresh air; the liberty; the absence of care; the sweet, light sleep from over fatigue; the luncheon under the hedge; and the health that results from them; who can wonder at some little enthusiasm? and if in his day dream he anticipates the time when he shall be able to enjoy more leisure, he is middle-aged before this time comes, and the few shots he worked hard for some years ago will not now content him. He cannot walk as he did till the birds were driven to some covert where they would lie. His circumstances are improved, and his ideas have risen with them. His day dream is now of Pheasants. He has none, but he will turn some out. His means are not sufficient, or his manor not large enough, to justify him in engaging a keeper who will relieve him of all difficulty. Or, it may be, that enough of his early habits remain to make him desirous to see to them himself; but he knows little of them, and having before drawn from the source of THE COTTAGE GARDENER, he applies again for information, which we are happy to give.

We will begin with a few observations on *Pheasants* in a state of nature. Water is very essential to a covert, and a running stream is half food. There should never be more than three hens to a cock. Five eggs should be taken out of every nest, and these should be set under hens; all birds so reared are as many saved to the manor. Proof: no hen Pheasant ever rears more than seven birds; or, at least, that is the ascertained average of eyes. Now, as a hen Pheasant lays from thirteen to fifteen eggs, and generally hatches all but two or three, it is thereby proved she cannot rear them. If five be taken away, she will hatch all, and will have as many left as she can bring up. Every bird, then, reared from the eggs thus taken is a gain.

Tame Pheasants should be kept in mews, or laying places. Each should contain a cock and three hens. It should be eighteen feet long by ten wide, enclosed with hurdles made of oak lath, or other wood, seven feet high, and the laths three-quarters-of-an-inch apart. They should be fastened to strong poles driven into the ground. They require no covering over head of any sort; they need no shelter; and as their wings are cut they cannot fly out. If there are bushes in the pens, so much the better; if not, a felled fir-tree may be laid down, and a little hollow made beneath it, which should be filled with dry sand, as the hens will lay there. Their eggs should be carefully gathered as fast as they are laid, otherwise, for the love of mischief, they will often peck them, and, having tasted, they will become confirmed egg-eaters. But, as it sometimes happens, the eggs are eaten for the sake of the shell, therewith to form that of the egg about to be laid, it will often be prevented if the pen is provided with a heap of bricklayer's rubbish, old ceiling, &c., in one corner. They must be well supplied with water, and fed on the best barley.

A moderate-sized hen will cover fifteen eggs; three or more hens should be set at the same time. They must have a quiet, sheltered place, exposed neither to wind, wet, nor a broiling sun. We will now detail an operation which requires some practice, but which can be acquired. After five days good sitting the poults are beginning to form in the eggs. Stand in a sheltered, darkish place, where you have the sun in front of you, take the egg in your hand, place it at one end, and close the hand, so as to form a sort of telescope-case; hold it then to the sun, and apply the eye close to it; if the poult is forming it will be easily discernible; while, if the egg is bad, there is no dark streak visible. This should be done when the sun is at his height. The unfruitful eggs should be taken away, and all the nests made up full by taking away from others. By this means one nest will be emptied to make up the others, and the hen thus robbed can be put on a fresh set.

When the eggs are hatched, a sunny spot, on grass, should

be chosen, the hen should be put in her rip, and a space, about three or four feet long by two wide, should be fenced in with boards, fastened by pegs. This should be covered with netting, and the poults may remain in it three or four days, or, if not strong, for a week. Their food curd, chopped egg, a little bread and milk, and a little meal mixed with milk.

They may afterwards be put out with the hen in the same way as chickens, but they must be on the grass. They must be fed very often, and but little at a time, and constantly supplied with water. A few ants' eggs every day assist them much. When the poults come off strong, the little enclosure at first may be dispensed with; but it is a great protection to them at first.

At about six weeks' old, the hen needs her rip only at night; she may be tethered in a field to a peg. A string, a yard long, is fastened to a flat strap of leather; this has a slit cut in it; it is put on the leg of the hen, and the string being passed through the opening, it forms a flat strap round the leg incapable of inflicting injury. At night, the rip is brought, the hen is put under it, her poults join her, and it is closed for the night. It involves the necessity of very early rising; but it is always safe to shut them in. It must not, however, be done unless they can be liberated by four o'clock.

Although sun is essential to their growth and well doing, yet they need shade and shelter from it in the heat of the day. None is so good as long grass; it is refreshing from its coolness at the bottom, and it harbours insects on which the poults feed.

If the space devoted to them be large, I advise that it be cut like a draft-board, or like the pattern of a plaid, having alternate stripes; one cut close, while on the other the grass is allowed to grow as high and as thick as it will. In this high grass the poults shelter themselves from heat, and rest, and amuse themselves; they also find insect food. The parts where the grass grows should be larger than those that are mown. In each of these latter places a large plank should be laid on which the food for the young should be thrown.

Feeding-time affords a pretty sight. When you enter the field there is no appearance of life, save the tethered hens, and here and there a straggling poult; but the moment the well known call from the man and the hens is heard, the high grass is alive from the motion of the poults; they come from every quarter of it.

Their food is still curd, strained in a cloth till quite dry and hard, dough made of meal, and given in small pellets, and, for a change, a little wheat, and a mixture of chopped eggs and bruised wheat and buckwheat. If to be had in sufficient quantities, green onion-tops, chopped fine, are also good food. Ants' eggs are always desirable, if to be had. They must *always* have water; but if they have been forgotten, and have been without for some time, they must have only a little at first, and not as much as they would drink.

Partridges do not require the same care. We have always set a hen on a great many eggs, and when hatched, moved them with the hen into a clover field, taking little note of them, save to provide them with food and water. They are clever little foragers, and, from the first, stray a long way from the parent hen. They are little subject to disease, soon take to flying, and grow without a check. Cats are their greatest enemies. If you would do well with either Pheasants or Partridges, the hens must be confined till they are no longer required to take care of their broods.

The food for Partridges and Pheasants is the same.

A PLEA FOR PIGEONS.

As an ardent admirer of Pigeons, no less than of Poultry, I am induced to write a few lines respecting their total, or partial, neglect at some of our Poultry Shows.

At Windsor, for example, there are no classes for these birds, hence the attraction of the Show is greatly lessened; and I know of many London amateurs who would have entered birds, and been glad to have made up a party to visit the exhibition, but who will now refrain from going.

I am sure it is bad policy on the part of the committee. The insignificant sum of £12 will give a 10s. and a 5s. prize in each class, and this will be greatly lessened, if not entirely covered, by the entries, and many, very many, visitors will be attracted who would not otherwise have attended.

Again, in some exhibitions where Pigeons are to be received, there is a meagreness in the classes fatal to an attractive show. Without naming any particular exhibition, I may allude to some where the very attractive class for new and distinct varieties is absent. This is a serious error, the class is one usually well filled and always commands attention; for, are not the beautiful Aerial Swallows, the striking parti-coloured Magpies, the Hyacinths, the Porcelains, the Frill Backs, and many others, worthy of being exhibited? In the opinion of many persons they are more beautiful than several of the standard varieties; and I do not see how any race of domestic animals is to be improved, if encouragement is not offered to those who attempt to introduce superior breeds. I know, at the present time, of a variety unrivalled for beauty of feathers, unsurpassed (except by the largest Runts) in size, and of unequalled prolificacy; several of the pairs having reared three nests each this year, yet the owner refrains from exhibiting them because little favour is shown to new varieties. Let me express a hope that this may not continue, that Pigeons may grace every Poultry Show, and that the distinct varieties may always have a class for their especial benefit and encouragement.—COLUMBA.

ON THE OCCURRENCE OF ONE PERFECT EGG WITHIN ANOTHER.

A VERY remarkable egg was recently submitted to me for examination, which had been laid two days previously by a common hen. In size it resembled a goose-egg, but was somewhat irregular in shape; in the largest direction it measured nine inches in circumference, and seven-and-a-half in the smallest girth; the shell was thin and fragile, and it was cracked on one side when discovered in the nest. On enlarging the aperture slightly, I observed, in the interior, the shell membrane of about the usual degree of thickness, the white, a yolk of usual size, and, to my great gratification, a second shell alongside the yolk.

On perceiving this, I immediately placed the whole in water, to support the different parts, and opened the outer shell to a sufficient extent to allow me to remove the inner one, which I found to be that of a perfect egg, with its membrane, white, yolk, cicatrix, &c., complete; the only peculiarity respecting it being that the shell was rather thinner than ordinary. I need scarcely say that I regarded the phenomenon with great interest. Such a case never before came under my notice, although some well-authenticated instances are on record; and there is a specimen in the Hunterian Collection. Apart from the mere curiosity of the case, it is of much interest, as throwing light upon some of the functions of the egg organs; and its existence proves what some have been much inclined to doubt, namely, the possibility of a fowl laying two eggs in one day.

Having, in a previous volume of *THE COTTAGE GARDENER*, described, at some length, the structure and functions of the egg producing organs, I will only repeat here that the yolk is produced in an organ termed the ovary, and that each yolk, as perfected in size and development, is received into the open extremity of a long tube, termed the oviduct, or egg-passage; and, as it passes along this tube, it receives around it the various accessory parts, the most important of which are the white, the shell membranes, and, lastly, the shell, these being each formed or secreted by different parts of the egg-passage. The only mode in which such a monstrosity as I have been describing could have been formed would be as follows:—A yolk, in the accustomed manner, is received by the egg-passage, and enveloped in white and membrane, and reaches that part where the shell is secreted; but, before the shell is fully formed, a second yolk is received by the egg-passage, invested with the white, and passes to that part where the membrane is formed; its presence there, along with the egg lower down the tube, excites an unusual and abnormal action; and the first egg is, by a retrograde movement of the passage, brought back to the

membrane secreting part of the tube, and then the whole is invested with the outer membrane, which, passing through the shell-forming portion, receives the outer shell. In no way can the production of such an anomaly be explained, but by supposing the occurrence of a retrograde action in the egg-passage—a circumstance of the occasional existence of which I am fully convinced from numerous dissections of diseased hens.

With regard to the laying of two eggs in a day, if we imagine, in the previous case, that the reception of the second yolk had been delayed but a short time, the first egg would have been completely shelled, and then laid, and the second would have followed at a short interval. But, although thus easily capable of explanation, such a condition can only be regarded as the result of an undue and violent excitement—a state of affairs to be prevented, rather than encouraged, by those who wish well to the health of their fowls. As to the alleged circumstance that some fowls lay two eggs at one time, it is difficult to conceive how it can be accomplished, as that part of the oviduct where the shell is formed is only of sufficient length to contain one egg.—W. B. TEGETMEIER, *Tottenham*.

THE LAST SHREWSBURY POULTRY-SHOW.

"AFTER repeated applications to the Secretary of the Shrewsbury Agricultural Exhibition by myself and others (I fear all who have claims) for payment of money for prizes and sales, our letters are now treated with silent contempt. As this Show was held in December last, it is almost time it was paid. Does our remedy lie against the Secretary or the Committee?—GEORGE C. PETERS, *Moseley, near Birmingham*."

[We have headed this "*The last Shrewsbury Poultry-Show*," not merely because it was the one which took place in 1855, but because it is the last that ever will take place, unless the monies due to exhibitors are honourably and promptly paid to them. It may have been a source of loss to the Committee; but that Committee ought to have been prepared to submit to such loss when they publicly announced themselves as having accepted the office. We trust that there will be no need for legal proceedings; but if there is such need, nothing would induce us to refrain from directing our attorney to proceed against any member of the Society's officials against whom we could best establish our claim. Who that would be, must depend upon what correspondence took place, who of the officials attended at the Show, and other circumstances.]

A SPARROW HAVING THE CANARY'S SONG.

A MOST interesting circumstance, connected with Natural History, has just come to my knowledge, singularly denotative how very much the general habits of a bird may be thoroughly changed by early education. A friend of mine, long accustomed annually to breed large numbers of canaries, (simply from the pleasure he derived from so doing) has a son who seems to inherit his father's predisposition in such matters. This child, (for he is *very* young) it seems, was his father's constant attendant at those times when he was looking after the welfare of the canaries, watched all his motions very narrowly, and scarcely a single day passed over without the youngster expressing a very anxious desire to appropriate some nest or other of partially fledged birds to his own especial case and supervision. This arrangement not meeting with approval, by some means (not explained) it appears he obtained a nest of the common house sparrow, and, triumphantly asserting them to be "*his own*," brought them into the house, and begged his mother to allow him to keep them; "For father kept canaries;" and promising all kinds of good behaviour if his parents should grant the much coveted permission. Though at first refused, and still more peremptorily on the return of his father, the lad's grief and tears soon decided the cause favourably to his own wishes, more particularly as it was at the time supposed the sparrows "would never trouble them long," on account of their present immaturity. Food was at

once provided for them of a suitable character, and they were well attended by their youthful owner, but, spite of all efforts, only one survived, and, from its extraordinary docility, soon became "the pet of the family." It was allowed *constantly* to associate with the canaries; indeed, they were its *only* bird-companions. Very few words will now complete its history. It proved a male, and is, at this present hour, in even superior plumage to a wild bird; its tameness is perfectly astonishing, for, on the cage door being opened, it will instantly fly upon the forefinger of its owner, and after giving a natural sparrow's chirp or two, by way of prelude, suddenly bursts into full canary's song, and whistles the *whole* through without *fault* or *omission*. It still, however, preserves the stooping attitude natural to its kind, and never assumes the upright position peculiar to its present companions when singing. The above circumstance seems to me so strange, that I fancy the detail may prove interesting to some of those of your readers whose taste may rather incline to singing birds than poultry.—EDWARD HEWITT, *Eden Cottage, Sparkbrook, Birmingham.*

EXTRAORDINARY PRODUCE OF EGGS—During the severe weather at the latter part of February and beginning of March, six fowls, of the Corsican breed, belonging to Mr. Samuel Pass, of King's Newton, near Melbourne, Derbyshire, laid an egg each for twenty successive days, making the extraordinary number of 120 eggs in 20 days.

DIARY FOR POULTRY-YARD.—What are the Poultry Breeders about that they have not answered the queries sent to them by the Editor of this very useful work? We direct their attention to the advertisement relating to it which appeared in our last week's number.

OUR LETTER BOX.

BRAHMA POOTRA HENS DYING (F.).—The old story—*over-feeding*. This is told by one sentence in your letter—"The last one that died I opened, and found it healthy, to all appearance, in every respect, except *she had an unusual quantity of fat*. You, probably, did not open her head; in that would have been found a ruptured blood-vessel, the apoplectic result of plethora. Give your fowls two-thirds less of "Indian corn, barley, and oats," and give them daily some "bran," but no "oatmeal." Give them, also, plenty of green food.

AGE OF EGGS FOR SITTING (G. C.).—We should not hesitate to place very desirable eggs under a hen though they were four or five weeks old; for, although the fresher the eggs the better chance of obtaining strong chickens, yet vitality is not unarousable in eggs even seven weeks old.

PROLIFIC AYLESBURY DUCKS.—"I beg to inform you, that last November our ladies had presented to them, by Mr. Geo. Mac Cann, of Graham House, Great Malvern, two white Aylesbury Ducks and a Drake. They began to lay on the 17th of February, and they laid 124 eggs, and never missed a day. One morning after there was but one egg, the next morning there were two in the nest, and one laid in the yard; all three were laid between nine at night and seven in the morning. They laid alternately for a day or two; but they have now laid every morning, and have, up to the present date (April 28th), laid 139 eggs. Perhaps it would be proper to mention that the third egg laid was a very large one, but not quite so hard in the shell as the others were.—JAMES WICKETTS, *Butler to the Misses Dorville, Highcroft, Great Malvern.*

PREVENTING HENS SITTING (T. S.).—Shut them up for a week, and then turn them down in a yard strange to them.

LONDON MARKETS.—MAY 5TH.

COVENT GARDEN.

There is an abundant supply of everything in season, and the prices continue much the same as in our last quotations. The display of early *Grapes* is very fine, and the *Asparagus* from France is large, and remarkably well grown. *Cornish Broccoli* is now nearly over, and is replaced by *Asparagus* and *Ash-leaved Kidney Potatoes* from the same county, and all from the open ground. The late severe morning frosts have very much retarded and even checked the *Asparagus* in the neighbourhood of the Metropolis.

FRUIT.

Apples, kitchen, per bushel.....	6s. to 10s.	Seville Oranges, do...	6s. ,, 12s.
"dessert.....	6s. ,, 10s.	Lemons.....	6s. ,, 12s.
Pears, per dozen....	1s. ,, 3s.	Almonds, per lb....	2s. ,, —
Pine-apples, per lb....	8s. ,, 12s.	Nuts, Filberts, per 100 lbs.....	50s. ,, 60s.
Foreign Grapes, per lb.	3s. ,, 4s.	"Colts, ditto ..	60s. ,, 70s.
Hothouse ditto, ditto	12s. ,, 20s.	"Barcelona, per bushel.....	20s. ,, 22s.
Strawberries, per oz.	1s. ,, 2s.	Nuts, Brazil, ditto..	12s. ,, 14s.
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Advertisements.

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WEEKLY CALENDAR.

D M	D W	MAY 13—19, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
13	TU	WHIT TUESDAY.	29.618—29.406	50—38	S.E.	0.49	12 a 4	40 a 7	2 17	9	3 52	134
14	W	EMBER WEEK.	29.678—29.615	57—35	N.E.	—	11	41	3 29	10	3 52	135
15	TH	Necrophagus humator.	29.572—29.551	48—41	N.E.	—	10	43	2 39	11	3 52	136
16	F	Necrophagus Germanicus.	29.832—29.698	50—30	N.	—	8	44	2 49	12	3 51	137
17	S	Necrophagus Anglicanus.	29.990—29.901	61—30	N.W.	—	7	46	2 58	13	3 50	138
18	SUN	TRINITY SUNDAY.	30.109—30.078	64—39	S.W.	—	5	47	3 11	14	3 48	139
19	M	Necrodes littoralis.	30.025—29.860	69—48	S.	—	4	48	rises.	☺	3 46	140

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 64.8°, and 41.2°, respectively. The greatest heat, 86°, occurred on the 17th, in 1833; and the lowest cold, 25°, on the 15th, in 1850. During the period 109 days were fine, and on 87 rain fell.

LOBELIA RAMOSOIDES.—BREEDING FROM SHY-SEEDING GERANIUMS.

FROM the number of letters which reached our office this season on the subject of bedding-plants, two out of three of them leaned to the opinion that there is some misunderstanding in the seed trade about the *Lobelia ramosoides*, and we have recorded a few of these letters, but, still, we are unable to decide which side is right. Some of the most respectable houses in the trade have inserted the name in their seed lists; and all purchasers would rejoice at the assurance that this, "the very best of the dwarf blue Lobelias," would come true from seeds. I should be so for one. It would save me the trouble of keeping store pots of it over the winter, and of making my two thousand cuttings of it in the spring. I mention it more particularly just now for this reason: I shall prove whether it will seed or not in a few weeks, or months, in my experimental garden, but that will be only for satisfying my own curiosity. My garden is not intended for "proof" to the seed trade, that is, to prove if so-and-so is a species or a variety; or whether the species, or the variety, comes true from seeds; or whether a reputed variety is *likely* to come true from seeds; or if a certain variety seeds at all. All these questions I have been trying to understand, more or less, every season since 1824, by direct experiments. In the second year of these attempts, that is, in August, 1826, I was threatened with a prosecution for witchcraft, by a Scottish Baronet, on the information of a Scottish dis-entitled Earl, who saw me crossing flowers in the conservatory from his dressing-room, and thought I was playing the "black art" with them. The informer, and the prosecutor—that was to be—are both dead now, and few would hear aught unreasonable against them at the present day; but, I believe, three good gardeners, who happened to be present at the very time, are still alive, and I am not yet sent to the stake for witchcraft. The oldest of the three gardeners went to America, and I have lost sight of him. The next oldest is now one of the best gardeners in Berkshire, Mr. George Mills—and the youngest, I believe to be the author of that excellent article on Reclaiming the Wilderness, inserted lately in THE COTTAGE GARDENER from the "Rural Magazine."

Such questions must not, therefore, be determined between the trade and the public in our pages. The "black art" must be better employed in these days than by setting people "by the ears." One of the parties concerned was invited to send a sample for me to prove, but now it is too late, as I decline all such kinds of experiments; and all I can say to the question about *Lobelia ramosoides* is, that I looked over more than 3000 plants of it in September, 1853, the last time I visited Shrubland Park, and I could not discover a single seed, nor any appearance of seeds. The few plants of it I had at home gave me no seeds, and since then I have had no opportunity of knowing if it has turned to a seeding state. But I know many kinds of

cross seedlings that no one could get to seed for the first few years. Dr. Herbert mentions one bulb which took fourteen years, after first flowering, before it began to seed.

From a letter now before me, marked "Confidential and Private," I must state that the writer has found out the secret of seeding *Pelargonium fulgidum* quite freely. It is by making a dry stove plant of it every winter. When I began gardening first, *Fulgidum*, and about fifty kinds of the tuberous-rooted Geraniums from the Cape, used to be kept dry on the front shelves of the Pine stove, from October to April, along with such plants as *Sprekelia formosissima*, a hardy bulb, and *Erithrina crista-galli*, which is all but hardy, and *Chrysanthemums*. The same plan of wintering *Geraniums* I also find recommended in old books; but such a house as was then called a dry stove is not now to be met with anywhere in this country for wintering bad seeders in. It is well worth while, however, for some of the nurserymen to take up the idea, and winter in the driest stove all their own favourites from which they cannot now get an improved cross, because the plants will not seed. Suppose that any one set his heart on getting a cross from the *Lady of the Lake* Geranium by the pollen of some Spanish Don or other, say *Espartero*, which was let out this time last year by Mr. Turner, of Slough; that both kinds produced pollen, but that the former will not seed at all under ordinary treatment. The way I should do would be not to cut down the *Lady of the Lake* till late in October, and then cut out every shoot and part of a shoot which is not perfectly hard and ripe; keep the plant in the old soil all the winter, in a dark, dry place, under some of the shelves in the driest stove, and give it no more water than would just keep it alive. Early in the spring—as it could not be left dry longer without doing it harm—I would shake it out of the old soil; keep all the roots which were alive—the small fibres die, or should die—in a dry stove, and place the pot near the glass in the same house; then bring in a healthy plant of *Espartero* to force into bloom for pollen; the crossing would then be in April and early in May, when no common pollen is flying about. After "setting," I would keep the mother-plants in heat until the seeds were very near being ripe. I would then gather them, and sow them the same day; the earliest crossed would be ripe enough for sowing by Midsummer-day, and each seedling would be in a sixty-pot before the end of next September. Indeed, if the seeds were not sown till the 20th of July, the seedlings might be potted off singly before September was out, as seedlings grow very fast, in heat, at that season.

If I had a stove to carry on experiments in winter and spring, I would undertake to produce seedlings of bedding-plants, or hybrid perpetuals, which would be as much sought after by the florists for the Shows, as they could not fail to be by every flower-gardener who heard their merits. Having no stove, however, and knowing the thing to be out of the question with gardeners where stoves abound, the nurseries seem the

only hope, seeing how backward the whole race of amateurs seem to be, under the false idea that it would be of little use to them to compete with gardeners in the race of improving any thing. Than this, however, there never was a more erroneous idea under the sun. The very best of gardeners in the country can do no more than make both ends meet, let alone experimental gardening altogether. It requires a good deal of attention and time to carry out a single experiment; but some one, who can step out of the circle of routine, makes a hit every season. Look at *Tom Thumb*; look at the new *Variiegated Geraniums*; look at the new *Golden Hamburg Grapes*; Melville's most extraordinary cross between the *Scotch-kale* and an early *Cabbage*, which is as true and genuine as any on record. A young German wrote to me the other day about crossing *Kidney Beans*, with a view of getting better kinds to force. If he has the well-known perseverance of German gardeners, and is in real earnest, I have no doubt but he might upset the whole trade in that article, and introduce far superior kinds of his own making by judicious crossing; for it seems as if the greater number of our best vegetables have "come by chance."

But to return to the stove. If I had one, what I should do, at present, would be to procure a two-year-old plant of each of the following *Geraniums*:—*Sidoniu*, *Lady Mary Fox*, *Diadematum rubescens*, or *regium*, *The Countess*, *Sir William Middleton*, and *Quercifolium superbum*, making six distinct sections of bedding *Geraniums*, and they the best representatives of each section. I would grow them as well as for a show, cut them in October, and house them in the stove, as I said before; then I would make a scrupulous selection from among the fancy *Geraniums* for pollen plants to force in the spring, and if I should fail over and over again, I would still keep on the experiments, till I was quite certain in my own mind that no one else could beat me on the same plants. The whole experiment, except the superior growth of the plants, is founded on old practice, which is now forgotten.

About sixteen years since, Mr. Catleugh, Mr. Gains, and other great men in the fancy, wrote, as a grand discovery, that *Pelargoniums* of the very best, and of all below them, could be struck from cuttings in the open air; and ten days ago I put my finger on the very book which tells that that was the "common way" of striking them a hundred and fifty years ago! At the same time and place, two of our very best gardeners in England were teasing me to hear them read out of another book that root-pruning fruit-trees and shrubs was highly recommended in sixteen hundred and something; but I wished them and the trees in the garden of Eden, or out of hearing on the banks of Jordan, sooner than be disturbed in a public library making notes for the use and guidance of *THE COTTAGE GARDENER*, who, as one of the best speakers before the Horticultural Society remarked the other day, has his weekly allowance of "scientific instruction" served out to him on equal terms with his betters in the drawing-room.

But the best news I heard this season is, that spring flowers and autumn-sown annuals are gaining ground fast and freely; and that such as are "full of them" will not attempt to bed-out more than old *Calceolarias*, old *Salvias*, and some old *Geraniums*, till after the 20th of May this season, and for the future; so that *Verbenas*, *Petunias*, and the smaller kinds, may be just coming into bloom by the time they are put into the beds. The earliest spring-sown annuals are time enough to put in at the beginning of March. Two hundred yards of edging of blue *Nemophylla*, sown then, is now nearly in bloom; it will last till Midsummer, and be succeeded by *Lobelia ramosoides*.

D. BEATON.

DEATH OF WILLIAM STEPHENS, ESQ.—This most liberal promoter of gardening in all its branches died on the 20th of April, at his residence, Prospect Hill, near Reading, aged 72. An additionally painful interest is occasioned by the occurrence of his widow's death only four days afterwards. We extract the following just remarks from the *Reading Mercury*:—"The late William Stephens, Esq., and his respected lady, have, after a life full of good works, been together removed; the emphatic language of Ruth has been realised—'where thou diest will I die, and there will I be buried.' They rest together from their labours, the labour which lightened the burthen of the desolate and the oppressed, which cheered the afflicted, which dispensed the spiritual support, and the temporal nutriment; in these labours, truly of love, they were as one, and as one they have passed away, to a more glorious inheritance. It is perhaps not incumbent upon the journalist to speak with eulogy of those who, blessed with the power of doing great good, have, without ceasing, exercised that power, yet it is but an act of justice to record the right use of the talent entrusted to the faithful steward. Possessed of very ample wealth, Mr. William Stephens, for a great portion of his life, lent his aid to further and promote the extension of the Word of God; year succeeding year found him ever at his post; his purse, his influence, and his talents were devoted to the great cause, he laboured early and late, in the heat of the day, and up to the eleventh hour. Of his charities, the numerous recipients, near and far, will bear better testimony than the columns of a newspaper, although few benevolent lists ever appeared without his name: to promote public benefit, and to assist private struggles with adversity, was his one great work, and in this, his faithful partner, through all the passing scenes of fleeting life, lent her kind and willing aid: they both truly fulfilled their vocations, and are gone down to the dust leaving an example, like a beaming light, to throw rays over a wide circle of lamenting friends and neighbours."

THE CALCEOLARIA.

THE pretty Slipperwort is a native of high altitudes on the mountains of Peru and Chili. By the time the plants come into bloom the sun has been melting the snow on the tops of the Andes, still far elevated above them; and thus, though exposed to a powerful sun, the melted snow-water, as it trickles down the face of the hills, keeps the roots comparatively cool. Whether this be absolutely the fact, I have not had the pleasure of determining by a visit to their natural habitats; but nothing is better ascertained by practice than that the modes of management, which such circumstances would suggest, are the most successful, namely, giving the plants a free circulation of air whenever it is a few degrees above the freezing point, and keeping the roots cool and moist. Weakness, delicacy of growth, and clouds of Green Fly, are the rewards for an opposite treatment. On the other hand, I have seen a weakly plant in a pot soon restored to luxuriance when turned out into a moist border. I have noticed a fine florists' flower in a large pot injured in health by the sun beating on the pot, and again restored by the pot being plunged in a larger one, the space between filled with moss, and that moss kept moist. We all know how the shrubby ones grow and flower in the open ground in summer. Their own dense shade, and the keen absorption of moisture, keep the roots cool. Were I to write a volume of minutiae, I could not present clearer indices for culture than these facts supply.

This family is naturally divided into two groups, the herbaceous and the shrubby; the former having large flowers on long flower-stalks, the latter having small

flowers on shorter flower-stalks, and coming from all parts of the plant, continuously, during the summer. The herbaceous ones, where treated so as to bloom several times during the summer, do so in successional efforts, each period of a mass of bloom being followed by one in which there are few or no flowers. On this account, the herbaceous ones have come to be treated more particularly as florists' flowers and for pot-culture; and the shrubby ones for pot-culture and the flower-beds in summer. Many hybrids have been and are constantly being raised between the two groups, having a semi-shrubby habit and largish flowers; and these are very attractive as pot plants; but after trying many of them in beds, I must say, that though exceedingly rich at times, I have met with none that bloom so continuously as the older small-flowered varieties. There has been little advance among florist's flowers of late, though many are extremely beautiful. When we look back at such species as *Corymbosa* and *Arachnoides*, which scarcely any one now would grow, and look at a stage of five flowers, we must at once own the power of the hybridist in producing improved forms of beauty.

CHARACTERISTICS OF A GOOD FLOWER.—If the flowers are equally good, the more shrubby the plants are the better, as the foliage makes a fine back ground for the flowers. The larger the flower, the better it will be, provided it is circular in outline, without crumples or serratures, and convex or globular in shape, instead of flat; the mouth of the purse cannot be too small; the colour should be bright, if a self; and if spotted, or blotched, the ground colour should be clear and distinct, and the spots, &c., well marked, not running, or fouling, into each other, or feathering into the ground colour.

TIME AND MODE OF PROPAGATION.—By seed for new varieties, and for continuing the species, and by cuttings and divisions.

BY SEED.—The herbaceous and half-shrubby group are worse to manage than the shrubby ones from cuttings, and seedlings are so much more easily grown, that many who use these plants for spring and early summer decoration, pay some attention to hybridising the best flowers, selecting a well-formed flower for the mother, and bringing to it the pollen of a bright-coloured spotted one for the father, and having secured the seed, pay little more attention to the plants, unless there is something extra fine about them. By this mode the plants are got rid of at the rubbish-heap just at the time that they require some attention to keep them healthy.

TIME OF SOWING.—Some do this as soon as the seeds are obtained in June and July, in order to have the plants some size before winter. I consider the second week in August quite early enough. I have sown in the second week in September, and had large flowering plants in twelve-inch pots in May. They grow very fast in the end of autumn, and after the turn of the day in spring. The second and third week in August may be considered good medium times. Proceed thus—Select a piece of ground in a shady corner, and there place a handlight, or more, if you want a good many plants. Strew the ground on which the handlight is to inches of rough coal-ashes, and when the glass is put rest, and a space round it, with salt. On this, place two down, place two or three more inches of the ashes inside. These are precautions against worms and slugs. Then take one, or several six-inch pots; fill them half full with drainage, then an inch of roughish soil, filling up to within half-an-inch of the rim with fine, light, sandy loam, containing a little fine-sifted leaf-mould. Press the surface, and then water the pots well, and allow them to drain for a day; then place a very little fine, dryish soil on the surface, press gently down, to make smooth, and sow the small seeds, and scatter over them the smallest quantity of fine sand. Press level again,

place a square of glass over the pot, and set it underneath the hand-light. If that is kept close, and the ashes inside moist, the seedlings will seldom want watering until they are fairly up, a matter of considerable importance. When fairly up, lift the top of the hand-light a little; as they get a little larger, edge up the square of glass over the pot, first at night, and then during the day. When a little larger, move the square of glass altogether, and give more air by the top of the hand-light. By this time the tiny plants will have a few little leaves, though it would be difficult, as yet, to handle them singly. To prevent them damping at the surface, lift little patches of several plants together, and prick these patches, an inch or so apart, in pots prepared as if for cuttings, or in shallow pans. If before this, notwithstanding the dampness of the ashes, the surface of the soil should be dry, soak it well, not by a rose over-head, but flooding the surface of the pot, by pouring the water on a piece of tile close to the edge of the pot. Many young seedlings, if small, are destroyed by watering over-head; they rot off just at the surface of the soil. When thus pricked out, and watered by sailing the surface, place under handlights again, and keep close for a few days. In two or three weeks the little patches will want to have the plants pricked out separately, giving them about one inch or so a piece. As the autumn gets on, the strongest to bloom in April and May may have each a four-inch pot, and be shifted to a larger one before the end of October; but the chief supply may be pricked out into shallow pans, a couple of inches apart, or four be placed round the sides of a five-inch pot. If there are more than is wanted, rather prefer the smallest, weakest-growing plants. They will soon acquire strength. Moisture, if not stagnant about them, will do little injury to them in winter. I have had them in fine order, with the protection of a cold frame in winter, paying great attention to air, and just securing them from frost. They are easily kept from frost in a greenhouse, heated by a flue or water-pipes; but a close, warm, dry atmosphere is their bane. They will do well in a temperature ranging from 35° to 45°, with air and moisture in proportion. In greenhouses, they will be much benefited if set or partly plunged in damp moss. I have grown them rapidly, even in winter, at 45° to 55°; but they stood in damp ashes, or moss, and had plenty of air. Whenever the pots are full of roots the plants will be inclined to throw up their flower-stems, and, therefore, they must be potted on, to prevent the roots matting, when large specimens are required. May and June are the best months for the herbaceous ones. Seedlings will bloom well in six-inch pots. Plants sown in August would fill that size, and bloom in May. To bloom in June and July, they must be shifted at the end of April and the end of May. When a small plant proves good, and it is desirable to make a fine specimen, it is best to sacrifice all flower-stems, and give it a large pot, and in about six weeks it will bloom again. This is, also, a good plan to follow when it is desirable to get cuttings of a valuable kind early, as the young shoots are encouraged to grow. Seeds sown in March, April, or May, will bloom in summer and autumn, they should be kept under glass at first, but after June will do best in a shady place out-of-doors.

PROPAGATING BY CUTTINGS.—The best time for florists' flowers is as soon as the young shoots can be got after flowering—generally the end of August, though cuttings will root at any time. They also strike freely in the spring with a mild bottom-heat. Those truly herbaceous may likewise be divided. The pots should be prepared as for seeds, only having very sandy soil, or half-an-inch of sand on the surface. A north border, under handlights, is the best place for cuttings in summer and

autumn; they should have no heat then. They will strike very fast in mild bottom-heat in spring. Shrubby varieties, for flower-beds, strike best in a shady place, under glass, after the middle of September. They will strike in a quarter of the time in spring, in a mild heat. All kinds of them grow so fast from young plants, that if propagated in autumn, there is little necessity for keeping any old stools.

SOIL.—Rich, light, sandy loam grows them to perfection. Whatever enriching agent is used, whether leaf-mould or old cow-dung, it must be dry and sweet. Four-parts of sweet fibry loam, one of sand, and one of flaky, dry cow-dung, or leaf-mould, will grow them admirably.

GENERAL TREATMENT.—From the time the seeds are up, or the cuttings inserted, they should never be dry. If well drained, and in open material, there is less danger of damp than dryness. In all shiftings see that the ball is wet before giving it another pot, and use the aerated soil in a condition neither hot nor dry. In winter, they should be as near the glass as possible. In frosty weather, when much artificial heat is used, the plants should stand on a moist bottom, and frequent, gentle syringing over the foliage in sunny days will help them to a moist atmosphere. The moisture should be in proportion to the artificial heat. In pits and frames, where little or no artificial heat is given, the plants will be moist enough; and if young plants, and well drained, and not over-potted, they will seldom suffer from damp. This moist standing, and moist atmosphere, are the great secrets for getting strong, vigorous growth that will throw strong, stubby flower-stems in April, May, and June. Small sticks, as inconspicuous as possible, should be used for supporting the bloom. If for home decorations, and plenty of air is given along with the moisture recommended, the flower-stalks, if the length of semi-herbaceous, will need but little support. When in bloom, they will be the better for a little shade. When saving seed is an object, the plants should have a drier atmosphere. When done flowering, those intended for propagating from should be placed on the north side of a fence, and old flowers, &c. removed. When hand-lights are not to be got, many of the semi-herbaceous kinds will root freely if a little very sandy soil is heaped up to the base of the young shoots. Every one of these would make a better plant next year, wintered in a four-inch pot, than if you took ever so much pains with the plant in a twelve or sixteen-inch pot.

DISEASE.—I know only of one: a sort of black and brown leprosy, which seizes on the foliage, destroying the plant, and proving, I rather think, contagious with many kinds. I know of no remedy. A free circulation of air, and freedom from any thing like stagnant moisture, with an atmosphere moist rather than dry, are the best preventives.

INSECTS.—Red Spider rarely appears, unless when the atmosphere is dry. Sulphur fumes from a hot-water plate are the remedy. Green Flies are fond of *Calceolarias* in the extreme. Tobacco-smoke should be used whenever one is seen; for there are sure to be neighbours not far off. Keeping the root cool, and a free circulation of air, are the best preventives.

THRIP often make their appearance when the air is dry; and smoke, and lashings with sulphur-water, may keep them down; but when it appears on plants of no great consequence it is best to get rid of them at once. If a valuable kind is assailed, smoke, and syringe with soap and water, holding a little size in solution; keep in the shade a few days, and then syringe strongly with clean water chilled; remove the top soil, and fresh surface. This latter enemy is very bad to get rid of. Though the *Calceolaria* is impatient of much frost, it requires, on the whole, less nicety than the *Auricula*.

R. FISH.

FANCY PELARGONIUMS.

THERE is a decided difference between what are called show Pelargoniums, and those named fancy Pelargoniums. The characters of the former are well known, but the latter are not so well defined or understood. Previously to giving a list of the best twelve new ones, now being, as the phrase is, *let out*, and twelve of the best older varieties, I have thought it desirable to give a few brief points of what florists' consider the true characteristics of a fancy variety.

FORM.—The first property I shall describe is the most important one—Form. It is now a rule, that in this class more especially, the five petals of which the flower is composed, should be of an equal size and form—a perfect circle, as flat as possible. Each petal should be quite smooth at the edges. Each truss should be compact, and should have, at least, five flowers. The stem should be short, and stout enough to bear the truss firmly above the foliage.

COLOUR.—The ground-colour of the upper petals should be clear, full, and distinct. Black is the most striking, though a rich rose is perfectly admissible. The margin should also be well defined, and should be pure white. The three lower petals should have the ground-colour of a pure clear white, with either a well-defined spot of black, or rose, or a band of the same colour, running nearly across each petal. Feathering from these colours has hitherto been allowed, but then the stripes should be perfectly distinct. The most perfect flowers, however, are such as have no feathering at all, but have the spots clear set upon the ground-colour distinct and separate. The upper petals should be perfectly alike, and also the three lower ones, in their markings, size, and form.

THE HABIT.—The plant should be dwarf and compact. The foliage neat, with short stems, and smaller than the show varieties. The flowers should be abundant, standing well above the foliage, and continue long in flower. Such are the allowed and necessary properties now understood by florists' as constituting a first-rate fancy Pelargonium, and all the following have more or less of these properties.

TWELVE NEW SELECTED FANCY PELARGONIUMS.

1. *Beauty of Slough* (Turner).—Deep, bright rosy-crimson, margined with white, white centre; fine form and substance; edges very smooth.

2. *Bridesmaid* (Turner).—Delicate pale lavender, edged with white; good form and habit. A distinct, new colour. A fine show flower.

3. *Duke of Cambridge* (Henderson).—Rich violet-crimson, light centre, white margin; good form and habit.

4. *Evening Star* (Henderson).—Very remarkable purple ground-colour, margined with white, with clear white centre; very good form and substance, edges very smooth; extra fine.

5. *La Stella* (Henderson).—Distinct and novel. Deep maroon-crimson self, laced with white, and clear white centre; very dwarf habit, with a good shape and substance.

6. *Masterpiece* (Turner).—Rich purple-maroon; upper petals edged with lilac; under petals spotted with mulberry; light centre and fine form.

7. *Moonlight* (Henderson).—Delicate rose, finely edged with white; lower petals distinctly spotted with rose; large, pure white throat; form and substance good; very dwarf habit. A very fine variety.

8. *Ne Plus Ultra* (Turner).—Purplish-claret suffused with violet; light margin, fine form, and robust habit. A fine show flower.

9. *Prima Donna* (Turner).—Upper petals violet-purple, margined with white; lower petals pure white,

spotted with purple; fine form and good habit; extra fine.

10. *Purpureum album* (Turner).—Rich purple, edged with white; centre pure white; good form and habit.

11. *Queen of Roses* (Turner).—Beautiful warm rose, suffused with lilac, margined with a light colour; white centre, good form, and a profuse bloomer. A fine variety for exhibition.

12. *Vivid* (Turner).—A very striking flower with bright carmine spots, light edges and centro. A very smooth flower, and a free bloomer.

From 7s. 6d. to 21s. each.

TWELVE OLDER SELECTED VARIETIES.

1. *Adonis* (Turner).—Violet-maroon, edged with white; under petals white, spotted with purple.

2. *Bellinzona* (Trimmer).—White ground, with a bright rose spot on each petal; very distinct and fine.

3. *Beauty of Blackheath* (Ayres).—Top petals bright crimson, margined with white; lower petals white, with a blotch of rose on each. A fine variety.

4. *Compactum* (Halley).—Upper petals crimson, margined with white; under petals white, spotted with crimson; fine form and good substance.

5. *Dandy* (Ambrose).—Upper petals rich crimson, suffused with carmine, broadly margined with white; lower petals white, with a large blotch of carmine on each; fine form and good habit.

6. *Enchantress* (Halley).—Upper petals rose, margined with white; lower petals clear white, distinctly spotted with rich rose; form and habit excellent.

7. *Fornarina* (Henderson).—Upper petals a rich dark puce colour, margined with pure white; lower petals white, with large spots of puce on each; form and substance excellent. A most distinct and good variety, of fine habit.

8. *Lady Hume Campbell* (Henderson).—Upper petals very bright crimson, margined with white; lower petals white, spotted with crimson; centre a good white; remarkable free bloomer, good habit, form, and substance. One of the best exhibition flowers yet raised.

9. *Othello* (Henderson).—Upper petals dark maroon, almost black, margined with lilac; bluish lower petals, with a belt of rich crimson in the centre of each petal. A remarkable dark, rich-coloured variety; very distinct and good.

10. *Roland Cashel* (Gaines).—Upper petals flesh-colour, with a distinct spot of crimson; lower petals also spotted with crimson, on a ground-colour of rose. A distinct, good variety, very conspicuous on a stage, either in the greenhouse or at an exhibition.

11. *Rosa Mundi* (Turner).—Upper petals pale rosy-lilac, edged with white; lower petals light blush, spotted with rose; good form and habit. Very free bloomer.

12. *Sultan* (Ambrose).—Rich, dark upper petals margined with blush; lower petals blush, banded and veined with purple; distinct and good.

From 2s. 6d. to 7s. 6d. each.

There has been introduced lately, from France, another class of Pelargoniums, which may be described as intermediate between the English two classes. They are, however, deficient as yet in form, but very distinct in colour. If any of our readers would like to grow a few, the following six are the best that I have seen:—*Adele Odier*, *Dion*, *Etoile des Jardins*, *General Eugène Cavaignac*, *James Odier*, and *Mauvaine Lamoricière*. From 5s. to 7s. 6d. each.

T. APPELBY.

PROTECTING AND SHADING.

NOTWITHSTANDING the proverbial vigour and robust character of most of the occupants of the kitchen-garden, there are many of the most useful and popular things

grown there that are as delicate as most flowers cultivated out-of-doors; and, certainly, there are no fruits grown outside which are more susceptible of cold than the most common of vegetables—the *Potato*. Though there is no doubt but that the plant has undergone considerable changes since it was introduced to this country, there is every reason to believe that the structure of the foliage and stems of the plant is as delicate as it was in the days of Sir Walter Raleigh; the alterations that have taken place being more with a view to render the plant more prolific in useful tuberos roots of good quality. Now, whatever, may be said of acclimatizing plants in various ways, all previous history of the *Potato* seems to prove that the plant is likely to remain as susceptible to frost as ever; and, consequently, our efforts ought rather to be directed to the sheltering and protecting the young plants from severe weather than in attempting any schemes for the hardening of its constitution; and, as “early Potatoes” are too great a favourite with every one to be neglected by those who have the smallest of gardens, it is well here to explain how that can be accomplished.

To have Potatoes early, three conditions are necessary, viz., a dry soil, good variety, and an untiring watchfulness in seeing to, and attending upon, the plants at all times when wanted; and, where any great quantity is grown, perhaps there is no better way of protecting them from late spring frosts than covering them up with straw at night. A very little is sufficient for this purpose, as it rarely happens to be more than two or three degrees of frost in the last week of April or first of May; and a slight covering answers the double purpose of keeping off frost and early sunshine, for it is often the latter that is fatal as the former. Untidy as straw is, it is not easily superseded by anything cheaper, where, perhaps, half-an-acre has to be done. Fern will answer as well, and looks better, but it is only to be had in certain places; but the amateur who has ample means at his disposal, and who wants to do things neatly and well, may form some small ridge-looking frames of lath wood, the bottoms being about a foot wide, and the top, or ridge, about the same height; any length that will be portable will do; and the skeleton frame is a convenient size for a width of ordinary calico covering it—and if it is oiled, it will not only turn rain better, but will also be more transparent, and may remain on in the day time when the weather is very cold; in fact, this kind of protection is useful many ways, for early crops of *Kidney Beans* are very susceptible of cold, and may, with advantage, be covered in this way. The ridge-and-furrow appearance which a plot of ground thus covered presents is rather interesting; the only draw back is the house-room the covers require when not in use, and to leave them to the inclemency of the weather is next to total destruction to them.

Many other modes of converting this useful protecting material into other shapes may be adopted by those having different plants to cover up. However, it must not be lost sight of, that although plants may be preserved from the severities of frost by this means, it does not hasten them so well as a glass-case, the ground not being allowed to be heated by this covering, and, consequently, the growth made by the plants inside (being more artificial than natural), it does not always happen that that part is elongated which is most wanted. Nevertheless, rows of *Peas* are sometimes saved by this means in hard weather, where they otherwise would have been destroyed, as also are *Cauliflower* plants, and in spring, *Kidney Beans*, *Potatoes*, *Tomatoes*, and several other things are saved from the frosts we then have; and later on they may be used advantageously with *Cucumbers* and *Vegetable Marrows*; and to those who are anxious of making the most of every thing, some little alteration of them will enable

them to cover beds of *cuttings* or *seed-beds*; the semi-transparent character of the calico being eminently qualified to shade either of the above from the strong glare of sunshine.

Although there is likely little danger of frost after the time this article reaches the reader, yet the preparation of some such protecting substances might be borne in mind before the time arrives for their being wanted. In the mean time, let the old maxim be remembered "That what keeps out cold, sometimes keeps out heat also;" therefore, where certain crops require retarding, shading may be as successfully resorted to as in the other cases, only a good contriver will endeavour to have the latter done by natural causes. The shade of a high north wall will retard most things placed behind it, and for that purpose "a north border" is scarcely less useful than a south one. The purposes being dissimilar, however, a judicious application of the shading and sheltering materials will in most cases tend to a useful result. J. ROBSON.

PLANTS THAT MAY BE IN BLOOM IN APRIL.

(Continued from page 79.)

GREENHOUSE PLANTS.

CINERARIAS.—Many of these will now be over. Pots of good kinds should have all the flower-stems removed, and be placed in a cold shady pit until June, then plant them out in a shady border, and strong suckers will be obtained for potting in August and September, which will bloom freely, if enough heat is given them, in December.

EPACRIS.—Those out of bloom, and allowed to rest a few days, should have their long shoots cut back to within a few buds of their base, be allowed to stand a few days, and then be stimulated to grow freely. A close place in the greenhouse will do, if another cannot be had; but they will delight in such heat as is given to a Vine, a Cucumber, or a Melon, when the young shoots are breaking, with a fair allowance of shade. As the shoots lengthen, they must have more sun and air. In August and September, a cold pit, where the pots are shaded, and the shoots exposed to all the light they can get, is just the place for them, and will so ripen the young shoots that they will be filled with flower-buds from the base to close to the points.

ERICAS.—Such free-growing kinds as *Wilmoreana*, *hyemalis*, &c., may be treated much in the same way, only they will not stand anything like the same amount of artificial heat. A part of a greenhouse kept close, or a cold pit so managed after May, will answer admirably.

CYCLAMENS should have plenty of water until the leaves begin to wither, when it should be withheld; and if the pots stand in a shady place, and are protected from heavy rains, they will want little more before growth commences, when the drainage should be examined, and, if not repotted, fresh surfaced. For windows, this tribe is invaluable.

DIELYTRA SPECTABILIS.—The early-flowering plants of this should be protected in a cold pit, and watered so long as the leaves are green. When they begin to turn yellow give but little. At that period, last spring, I cut off a number of pieces of the stems with leaves, rather carelessly, and planted them in sandy soil, under a hand-light, placing an evergreen branch over the light, and thinking little more about them. In the autumn the glass was filled with plants, and, being potted in November, and kept in a cold pit, they have bloomed well this spring. Everybody likes the racemes of this flower; and those who wish a large supply may thus use the stems, before they wither, and not injure the old root, provided they do not cut too close.

I shall now, in the limited space left, refer shortly to a group of climbing plants in the above list.

HARDENBERGIA.—This genus, allied to *Kennedya*, blooms chiefly in this month. The flowers are small, and pea-blossomed in shape, but produced in great profusion. *Comptoniana* (purple, lilac) and *ovata* are, perhaps, the fittest for round trellises; *macrophylla* (scarlet) and *monophylla*, and *monophylla longiracemosa*, both purple, are well fitted for pillars and rafters. Propagated by seeds, and by short, stubby side-shoots, in April or May, two or three inches long, inserted in sand, under a bell-glass, and kept shaded by day, and close, until struck. When young, the plants like the compost to be chiefly sandy peat, with a little loam; but, as the plants get older, and they stand in large pots, the fibry loam should constitute at least one-half. When planted out, a little sandy peat should be given round the roots, and then, if the border is good loam, well drained, the plants will shift for themselves, with a sufficiency of watering. When done flowering, they should be pruned in pretty freely, to encourage fresh flowering-wood for next year. Sometimes they are troubled with a white scale, that elings as fast as if it were glued. The cleaning of the leaves, in a large plant, would be an endless job. Do anything to prevent it spreading, and, when done flowering, prune hard in, and scrub the stem or shoots unmercifully with a hard brush and liquid made pretty strong with tobacco and soft soap. Move the earth as far as possible from the collar of the plant at the roots, and scrub these likewise. In a few days, scrub again with clean water, holding a little size in solution. Shade from bright sun, syringe freely, and there will soon be plenty of clean shoots, which will only remain so if the insects have been thoroughly removed from the main stems.

KENNEDYA.—If the last may be called trailers, this is a family of twiners. The earliest blooming of them in a cool greenhouse are *nigricans*, *prostrata*, rather a trailer if let alone, and *Marryatæ*, one of the hardiest and most beautiful, producing a profusion of scarlet flowers, almost as large as the common Pea, from March to June. *Prostrata* has also scarlet flowers. *Nigricans* has very dark purple flowers, blotched with green and yellow. I once had it so strong as to threaten to monopolise for itself the roof of a large house; and when, in early spring, the shoots were dangling full of flowers, they looked like swarms of some beautiful winged insect. Besides these, there are *inophylla* or *dilatata*, scarlet; *ovata*, purple; *rubicunda*, red; *sericea*, silky-leaved and scarlet flowered, and others very pretty that bloom the two following months. All look well upon a trellis; but I should recommend *nigricans* and *Marryatæ* for a pillar, an arch, or a long rafter. When planted out they will thrive in fibry sandy loam, with a little peat to encourage them at first. When young, two parts of the compost should be sandy peat. Propagated by cuttings, in sand, under a bell-glass, in May; or by seeds sown in a hotbed, after being soaked in warm water several hours. Free-growing kinds as those mentioned should be pruned back when done flowering. Scale and Red Spider must be looked after.

ZICHYA.—This is another allied genus, and there seems considerable confusion among them. They are more compact in habit, more tender, require more attention to drainage, with more sweetness and openness of the soil, than the two former genera, and do best on trellises, from two to four feet in height, and are thus great favourites as greenhouse pot twiners. Of these *coccinea*, scarlet; *heterophylla*, purple; and *tricolor*, yellow, red, and purple, bloom now, and the others a little later. Great care is required in watering, so as not to soak the soil; farther secured by good drainage, and having the compost fully two parts fibry peat, and one part fibry loam, with silver sand, pieces of charcoal, and broken

pots, to keep the soil open. Propagated and raised as *Kennedy*. When the flowering is over, remove all trace of the old flowers, but the pruning must be done more moderately than for the allied groups. R. FISHER.

WALTONIAN CASE.

My anticipations about the success of this simple method of striking cuttings on a small scale are more than verified already. From the middle of last February—the only time left to Mr. West for testing the practicability of the contrivance—he has been unremitting in his experiments with cuttings, plants, and seeds, in his own shop, and under his own eye; namely, a look and key. He has simplified the contrivance considerably, and lessened the expense of working it with oil or gas in the same proportion. His own lamp will burn twelve hours without trimming, and heats the Case just as easily as the gas; but still, a jet of gas is more handy, and less trouble. I am now sorry that I was not more resolute than to yield to the clamour of certain *fidjels* who teased us about drawings of the Case before we had a chance of proving it effectually; and I have a small list by me of such as break our *law* of correspondence, which, if it should swell to a respectable size for a weekly article, I shall send it into the world in the shape of a report on the “rise and progress of the Waltonian Case.”

We have discovered another very important use of the Waltonian system, which is this: it may be successfully applied as bottom and top-heat to a Wardian Case full of orchids, or of any other section of plants—*Ferns*, *Alpines*, and all; a portable hothouse system, in fact, which will do for the top and bottom-heat equally well at the same time. The whole family of *Anectochilids* and *Physorads* may be grown in a drawing-room by this means, in a close Wardian Case of the highest finish, just as well, and as easily as in an orchid-house. By the vapour tube you may admit as much moisture as the air will hold; or by corking it, the heated air inside might be rendered sufficiently dry for a *Melocactus* or a *Mammillaria*. You may fix on the proper degree of heat which will best suit your Wardian Case from 40° to 65° or 70°, or more, and with a common lamp, quite out of sight, the required degree is kept up nobody knows how. All you have to do is to send the exact inside measure of your Wardian case to Mr. West, Surbiton, and he will pack the apparatus, and send it where you direct, with full printed directions by which little Dick could set it going, and keep it on the move as long as you please.

If you have a friend in London, or who is going to London this season, just tell him to call on Mr. Kernan, of Covent Garden, and see the Waltonian Case in full operation, and he may possibly learn more about it from Mr. Kernan than I can tell you from here. I should not wonder to see one of them at work in the Crystal Palace, sooner or later. At all events, if I wished to push the Wardian drawing-room Case into the world, I would place one or two of them in the Crystal Palace, to be heated to the right pitch by the Waltonian system of bottom and top heat. As it is more than likely that the Wardian Case may now come into universal use in large towns, I must warn my readers, most specially, that Mr. Ward's theory of growing plants is founded on misconception from beginning to end, and that if you desire to excel in the parlour cultivation of exotic plants, you must repudiate the idea of keeping them from the air for any length of time; but with the Waltonian Case for propagation, you cannot have the cuttings too close, but if you raise seedlings in it they must have fresh air as soon as they are up. D. BEATON.

HORTICULTURAL SOCIETY OF LONDON.

REPORT FROM THE COUNCIL TO THE ANNIVERSARY MEETING,
MAY 1, 1856.

IN the Report made last May, the attention of the Society was drawn to the serious decrease which had taken place in the income of the Society, the effect of which was to augment the debt of the Corporation to the extent of £1,250. Nevertheless, relying upon the large apparent value of the property of the Society, and unwilling to believe that the Garden Exhibitions, which for the four previous years had produced an average revenue of more than £2,000, had lost their attractions, the Council felt it incumbent upon them to repeat the experiment of holding those meetings, and also to give greater interest to those in Regent Street. In this manner they hoped not only to recruit the finances of the Corporation, but to strengthen it by the accession of new Fellows. The result, as is now known, did not fulfil these expectations. The Exhibitions, although admirable horticultural displays, instead of yielding a profit of £2,000, produced a loss of £276 19s. 9d., only 8,315 tickets having been sold; and at the close of July the Accountant reported that a serious addition to the debt of the Corporation had again become inevitable.

About the same time the Society had to lament the loss of their Treasurer, Dr. Andrew Jackson, who died on the 28th of July.

The earliest possible day, consistent with the By-Laws, was immediately selected for the nomination of Dr. Jackson's successor, and on the 14th of August the present Treasurer, Mr. Wilson Saunders, was elected in his room.

Three days afterwards, August 17th, the Council having again assembled for the purpose of considering what course should be taken under the circumstances, directed the expense of the Garden to be immediately reduced to the lowest possible point consistent with preserving the property there from material deterioration, and nominated a Committee of seven Fellows, with power to add to their number, for the purpose of advising the Council in the then position of its affairs. It was, however, found impossible to bring together the members of this Committee during the autumn. So late as the 6th of October, only four members of the Committee could meet, and they expressed an unanimous opinion that the Garden must be relinquished, and the property in it realised. Other individual but not collective views were also communicated to the Council. These having been all taken into consideration by the Council on the 23rd of October, a circular letter of the same date was ordered to be immediately transmitted to every Fellow, stating the Council had arrived at the conclusion that the Garden Exhibitions will not be profitable in future. They said, “The distance of the situation from the Metropolis deters visitors from repairing to Chiswick as formerly, when no similar meetings were held in places of more ready access. Nor can it be doubted, that the proximity of the great Government Garden at Kew, accessible as it is by railway and water, and with whose attractions it is hopeless to contend, annually renders the Society's Garden of greatly diminished interest. Under these circumstances, the Council have no alternative but to reduce the latter establishment within very narrow limits, if not to relinquish it altogether; and, at the same time, to realise some, at least, of the valuable property accumulated there towards liquidating the debts of the Corporation.”

“The history of the Society clearly shows that it was in its most flourishing state in the year 1821, at which time its operations were confined to the encouragement of Horticulture by rewards, and the publication of its Transactions, to Exhibitions in London, to the distribution of seeds, &c., obtained from its correspondents, and to the maintenance of a small and unexpensive Garden. The subsequent enlargement of the Society's undertakings, successful as they have been for a time, have ultimately proved beyond its resources; but the Council hope, and confidently expect, that by reverting to the system of 1821 the Society may be restored to its former prosperity; and by restricting themselves to the encouragement of its original objects, its utility and popularity may be maintained undiminished.”

At the same time the Council announced that they had ordered an immediate sale of stove plants,—the continued cultivation of which even through the ensuing winter would

cause a needless increase to the Society's debt,—and of some other portions of the Corporation property, such as Herbaria, &c., which could be disposed of without detriment to the efficiency of the Society.

On the 24th of December another circular letter was addressed to every Fellow, explaining the views of the Council as to the future course which it might be advisable for the Society to follow, and announcing their intention to convene a Special Meeting of the Fellows, immediately after the assembling of Parliament, for the purpose of considering those views.

On the 5th of February this Special General Meeting was held, when the Council presented a Report, embodying the proposals made in the previous circular, and some other points not before adverted to. The Meeting determined, before adopting the views of the Council, that a Committee of nine Fellows should be appointed to investigate the accounts, and to report to a future Meeting what was in their opinion best to be done for the continuance of the Society. The Committee was immediately formed, and the Meeting adjourned till March 11th.

On that day the Committee presented their Report, in which, after eulogising the manner in which the accounts had been kept, and doing justice to the services of the Society's officers, they recommended, among other things, certain changes in the administration,—that prizes should continue to be given at the monthly meetings in Regent Street, that two Exhibitions should be held at Chiswick, one in June and one in July, and that a class of Two Guinea Members should be admitted to the privileges of Fellows. The Committee concluded by stating that it was the earnest wish of some of the best friends of the Society that a subscription should be raised to pay off loans bearing an interest of 6 per cent. to the amount of £2,400, and that considerable donations had been promised, in the hope of extricating the Society from its difficulties.

The Fellows present having resolved that the Council be requested to report to a future Meeting their views as to the practicability and advisability of adopting the recommendations of the Committee, or any portion of them, a third Special General Meeting was convened for March 31st.

On the 31st March, the Council reported generally upon other points, but especially upon the preservation of the Garden and the Exhibitions there. They repeated their anxious desire to preserve the Garden, if practicable, and their willingness to make a further trial of Exhibitions in it, provided the financial position of the Society would justify it. But they pointed out that increased, not diminished, expenditure would be inevitable, should the plans of the Committee be adopted, adding, that if the Fellows, with a full knowledge of this fact, would come forward and place the Council in a secure position, then the Council would endeavour to preserve the Garden, reorganise it, and to restore it to a state worthy in every way of the Society. They were ready to revive the Exhibitions, take their chance in the field of competition, and render the meetings in Regent Street as interesting on a small scale as those at the Garden have been on a large scale.

It was, however, shown by the Accountant, that in case these measures should be taken, considerable pecuniary assistance would be indispensable, if the Corporation was to be secured against financial danger. There was an immediate need of £4,300, to defray current liabilities, for the most part over-due. The whole amount of the property of the Society beyond its liabilities was only £12,500, from which would have to be deducted the value of the Life Compositions of 255 Fellows, in case, owing to any future disaster, the affairs of the Corporation should require to be brought to a close.

The discussion which followed upon reading this Report, terminated in the following unanimous resolution;—

“That the Council be authorised to terminate the tenancy of the Garden at Chiswick as soon as the Lease will permit, and that the property therein be sold; unless such a sum as the Council may require for maintaining the Garden shall have been subscribed before May 1st.”

The Council have now to report what has been done to give effect to this resolution. On the 3rd of April they re-assembled, and after a careful review of the financial condition of the Society, arrived at the conclusion that a smaller

sum than £5,000 would be insufficient to enable the experiment of maintaining the Garden to be fairly tried. A circular letter was shortly afterwards sent by post to every Fellow, representing the objects of the Society, and announcing the names of donors to the amount of £580. Since that time a further list of subscriptions has been sent to every newspaper (576) in the United Kingdom, with a request that the editors would be good enough to draw the attention of their readers to the position of the Society; a request which the Council have reason to believe has been most readily complied with.

The lists of subscriptions have been advertised gratuitously by the *Athenæum*, the *Literary Gazette*, and the *Gardeners' Chronicle*, to the proprietors of which the Council desire thus publicly to express their thanks.

A second and further list of subscriptions has been forwarded to all Fellows.

Finally, many hundreds of circulars and lists of subscriptions have been sent through the post to wealthy inhabitants of the metropolis not being Fellows.

The Council have now to announce that these measures have not produced the sum required. Some Fellows object to any attempt being made to preserve the Garden, others have answered by sending in their resignations; but from the greater number no reply has been received, so that the subscription list, when closed, amounted to no more than £2,593 7s.,* contributed by 165 persons, of whom twelve are not Fellows. Conspicuous among the latter is Mr. Heinrich Behrens, a German gentleman, residing near Lubeck, wholly unconnected with the Society, who has most liberally offered to contribute the large sum of £100 towards the proposed fund.

The result of this appeal is, however, so far satisfactory, that it seems reasonable to defer closing the subscription for the present, the Council not doubting that the spirit which has been already displayed, will ultimately lead to the contribution of the full sum required.

It does not, however, necessarily follow, that the Society is to have no Garden, and that its horticultural operations are to terminate, even if the Garden at Chiswick is relinquished. It will be in the recollection of the Fellows, that in the scheme proposed by the Council, on the 24th of December, for reorganising the Society, it was contemplated that a small garden should still be maintained for the purpose of raising such seeds as may not arrive in sufficient quantity for distribution, for restoring the health of imported plants, and for experimental purposes. This also formed part of the plan laid before the Society on the 5th of February.

Among the many suggestions which have been lately made to the Council is one from Sir John Lubbock, Bart., an old Life Member, who remarks, in a letter dated April 11, that the obvious course for the Society is to move the Garden to the grounds of the Crystal Palace, there being no doubt that an arrangement might easily be made by which the Garden would be there preserved in a better locality to the advantage of both Societies.

Within the last two days the Council have received a communication from the Directors themselves of the Crystal Palace, conveyed through Sir Joseph Paxton, suggesting the expediency of an arrangement being made between them and the Horticultural Society, on terms of mutual interest, by which a portion of the grounds in the Crystal Palace Park may be occupied by a Garden for the Horticultural Society.

This proposal is so recent that the Council are not at present in a position to do more than announce the circumstance.

The actual state of the finances of the Society will be seen from the Balance-sheet laid before the Meeting. It will be found that the debt of the Society is now £9,388 10s. 4d., while at the last anniversary it was £8,821 4s. 4d., showing an increase of only £567 6s. But on the other hand there is a diminution in the available assets of the Corporation to the amount of £1,544 19s., chiefly caused by the sale of property; namely, of Stove-plants, which produced £569 4s. 6d.; of the Herbaria, for which the unexpectedly large sum of £253 15s. was obtained; and of the old stock of Transactions, &c., which realised £282 19s. 9d., or nearly £83 beyond the sum at which they were valued.

In consequence of the unsettled state of the affairs of the Society it has been found impossible to make any arrange-

* About £2,800 have been subscribed to this date.

ments for Exhibitions during the present year; but should the appeal to the public prove successful, the Council hope they may look forward to the revival of the Exhibitions with all their former excellence.

NOTES FROM PARIS.

THE weather here has been beautiful for several weeks, and gardens are now all in their early splendour. The trees are everywhere quite green, and the borders are gay with summer flowers, such as Tulips, Lilacs, Rhododendrons, Ranunculi, Wallflowers, and Pansies. Occasionally, however, we have refreshing showers; on the 10th of April we had a good deal of rain, accompanied with lightning and thunder. The accounts from the provinces are very cheering, both as respects the wine and grain crops. The corn markets have been abundantly supplied for some time, and there has been a considerable fall in the prices. It is believed that the Potato, Vine, and Wheat crops will be much heavier than they were last year.

Most people who have read the story of the *Corsican Brothers* may recollect a passage in which the Hill of Montmartre is mentioned. This celebrated hill has long ago been covered with houses and streets. At the present day only the summit exists in the form of a large mound, with a watch-tower and several summer dwellings and gardens on the top. The narrow, steep streets leading to it seem to have been built without any plan, and, in many respects, it has been long neglected; but now the Government have taken it into consideration, and it is to be entirely remodelled and improved. An extensive garden is to be formed on one side—that looking down towards Paris—and a circular, or, rather, perhaps, spiral way will be carried all round. This is one of the finest sites in Europe on a small scale of the kind, and is capable of being turned into a suitable pendant to the *Bois de Boulogne*, so famous for its lake and ornamental grounds. The soil is a light sandy loam, and the work of cutting and levelling is not likely to be heavy. The whole of Paris lies before this little hill like a panorama, and there is scarcely a public building which may not be seen from its summit. But, indeed, the ground rises considerably all round this famed capital, and a good view may be had from any elevated point.

Montmartre is much higher and larger than our Primrose Hill; but it is not to be compared to Richmond for sylvan beauty. It will never have the romantic magnificence of the Calton, which overlooks the Forth, and forms one of the chief features of the Scottish capital. Still it may be made a beautiful spot, rich in classic grandeur, and worthy of the many famed monuments which may be viewed from it.

The opening of the Horticultural Exhibition here, which was announced for the beginning of May, is to be put off till the end of the month. The change is owing to the fact of the Great Agricultural Exhibition taking place at that time; and it has been arranged to have both exhibitions together in the Industrial Palace.

The large square, in the centre of which is the lofty tower, St. Jacques, has been very neatly laid out in grass lawn, clumps of young trees and shrubs, and handsome single specimens, here and there, all in the English style. Among the larger trees are some good examples of Conifers about twenty or twenty-five feet high.

M. Husson, one of the *Chefs* of Police here, has just published a work, of about 500 pages, showing the statistics of the fruit and vegetable markets in Paris. It contains much curious matter; but it is especially interesting to market-gardeners round Paris.

Courses of lectures for the summer were opened a few days ago, at the Garden of Plants, by Professors Decaisne and Brougniart. M. Decaisne confines himself chiefly to the subject of cultivation; but he has an extensive range, for it is not easy, in a single course, to treat of all the niceties of propagating and acclimatising. M. Brougniart treats more especially of botany scientifically considered. The drawing-class in the Museum has also been opened for the summer. There is a division for females, and the studies comprise flowers and plants in particular.

In the shops of the principal *fournisseurs* may now be seen large and well-ripened Strawberries, French Beans,

(Haricots Verts), young Peas, Broad Beans, Asparagus in abundance, young Kidney Potatoes, and early Grapes. Small pots of Strawberries, containing about seven fruit, sell at a franc (10d).

Of flowers there is a plentiful supply, including Kalmias, Rhododendrons, Azaleas, Paeonias, Heaths, and Camellias.—P. F. KEIR.

IMPROVEMENT UNDER DIFFICULTIES.

I HAVE some time been a reader of THE COTTAGE GARDENER and of THE COTTAGE GARDENERS' DICTIONARY, and I have derived a large amount of knowledge from both. In the first-named work I have been very much interested in reading the hardships and perseverance of young gardeners, and perhaps some of them would like to hear how I persevered in learning to write.

Being of a poor farm-labourer's family, I was sent to earn my own bread when very young, and with but very little schooling; indeed, I had only just got so that I could read a little, and it grieved me to the heart to think that I could not write a little. So I bought a copy-book, and pen and ink, and I pondered out one letter after another.

After a short stay at a farm-house, I was engaged with a clergyman for a knockabout boy, to clean shoes and to work in the garden, where about three men were kept. Here, when I got hold of a label, and was not able to read it, I thought it very hard; but at night I always set myself to work with my pen and ink, and in a short time I could read a label, with asking a word or two. I thought myself doing well; but after about two years' stay at this place, I left, being at the age of sixteen.

I then went to work at farm labour, boarding at home with my parents; but I could not be easy with this, as I had a great fancy for gardening. Well; there were prizes given to cottagers for vegetables and flowers in the neighbourhood; so I set to work, and the first year I got nine prizes. That set me up. The second year I got twelve prizes, and nine of them first prizes.

I now thought myself clever, and obtained an engagement with a gentleman as under-gardener, with whom I remain to this day; but I am happy to say I did not remain under-gardener long.

I hope all young men will bear in mind that we must live and learn, and learn to live. A gardener ought not to give way to idleness, but be able to work at anything; for these are not the days of old times.—H. H., near Ormskirk.

[We can assure our readers that this self-taught person writes a very fair hand. We recommend him to buy an English Grammar and Dictionary, and when he is not sure to refer to them. His grammatical and spelling efforts are so good, that he ought not to rest satisfied without doing better.—ED. C. G.]

THE HOUSEHOLD.

TO REMOVE TURNIP TASTE FROM BUTTER AND MILK.—

Before pouring the new milk into the pan, pour boiling water into it, in the proportion of one pint of water to six pints of milk; also have ready, in a bottle, one ounce of nitre, or saltpetre, dissolved in one pint of spring water, and add it in the proportion of one tea-spoonful of the solution to one quart of milk; this should be added to the boiling water before the milk is poured into the pan. The above quantities will be found sufficient when the cow's food is composed of a fair mixture of hay and grass, as well as Turnips; but if the *principal* food is Turnips, and should the taste of them become very strong, it is better to add two or three tea-spoonfuls of nitre solution to each quart of milk. This receipt has perfectly answered in our dairy this winter, the butter having been entirely free from any disagreeable taste, and considered remarkably good. Our cows have also supplied a much larger quantity of milk than those of our neighbours, not fed upon Turnips.

TO PRESERVE EGGS.—Take of lime, one bushel; salt, 2lbs.; cream of tartar, $\frac{1}{2}$ lb.; water, sufficient to form a solution strong enough to float an egg. Keep the eggs plunged in it.

A Meeting of the BRITISH POMOLOGICAL SOCIETY was held on Monday the 5th, at the Society's Rooms, 20, Bedford Street, Covent Garden. Mr. Lane, of Berkhamstead, in the chair.

A collection of late Pears was exhibited by Mr. Rivers, of Sawbridgeworth, some of which were dessert, and others cooking varieties. Among the former, *Susette de Bavay* was found to be an excellent Pear for the season, and well worthy of cultivation. The flesh was rather gritty, crisp, juicy, and sweet. *Fortunée Parmentier*, a small Pear, covered with light brown russet; flesh rather coarse, crisp, juicy, and sweet, with that peculiar musky astringent flavour which is found in the *Golden Knap*, and some other varieties. *Beurré Bretonneau* has the flesh tender, and, though without much flavour, is good for the season. *Bergamotte d'Esperen*. This variety, which at this season is generally of excellent quality, appeared to have been touched by frost; it was dry and woolly, and without much flavour. This, like all late-keeping Pears, requires a warm summer to ripen sufficiently, and then it is rich and melting. The cooking varieties were—*Franc Réal d'hiver*, *Beurré boréal*, *Rezi des Vétérans*, *Colmar des Invalides*, *Bonchrétien Turc*. Mr. Rivers also produced very fine specimens of *Sturmer Pippin*, in excellent preservation, and of fine aromatic flavour. This was pronounced to be one of the best late Apples. Among the Pears—*Blanc Perné*, and *Léon le Clerc de Laval*, were found to be synonymous.

The collections of Apples and Pears from Mr. McEwen, of Arundel Castle, which were exhibited at the previous meeting, were again produced at this, and their merits compared. *Beurré de Rance* was found to be very juicy and sweet, of a crisp texture, and altogether in very fine condition. *Easter Beurré* was very melting and very juicy, sweet and excellent. *Knight's Monarch*, richly flavoured and aromatic, and very good to be so late in the season. *Knight's Winter Crasanne* was without flavour, and woolly. *Ne Plus Meuris* had no flavour, but was quite firm and remarkably well kept. *Cockle Pippin*, flesh tender, and of excellent flavour. *Brabant Bellefleur*, good culinary Apple, with a tender flesh. *Hamilton Pippin*, a variety which was not known by any of the members present, is large, and an excellent late dessert Apple, with yellow flesh, and keeps well. *Margil*. This old favourite was in excellent condition; flesh tender, crisp, juicy, and aromatic. *Hertfordshire Pearmain* was remarkably fine, and considered one of the best Apples in the collection; the flesh was very tender, but firm, sweet, juicy, and aromatic. There were, also, very excellent specimens of *Ribston Pippin* and *Sturmer Pippin*.

Mr. ALEXANDER DAVIDSON, of Weston, near Shiffnal, was elected an ordinary member.

HAVING applied to Mr. Errington for some notes of his life's events, he has obligingly supplied us with the following:—

“My course has been little varied, and I have been much less given to change than many gardeners. Born and reared in

a nursery, and having from a child the run of both grounds and seed-shop, I was, from the first, accustomed to things belonging to gardening; and as I was on holidays, and on every possible occasion, close to my father's heels, a love of flowers, fruits, and vegetables, became, as it were, a part of my nature. I, moreover, came frequently in contact with the gardeners of the day; for it was my father's constant practice, when he found me idle, or tired of my play, to place me at the counter, where I used to scribble the names on the packets for him, or enter them in the journal. Of this, however, more shortly.

“I was born at Putney, on the 2nd of November, 1799. I received my education at a school, opposite the old church; the school, at that time, bearing a high name, and conducted by Mr. Chapman, who afterwards left it for a similar establishment at Tooting, called, I believe, Eldon House. The school was transferred to a Mr. Murr, who carried it on for some years afterwards. Education of a classical, mathematical, and general character, was here carried out; but, for my part, being only a day-scholar, I merely managed to get, beyond the ordinary routine,—about a year-and-a-half of Latin and French; but even this little I have since found of much use. I left school in the year 1812. It was the winter of the celebrated frost; and as I had not yet buckled on my armour, I remember spending a portion of my holidays—the last that were to fall to my lot, perhaps—in wandering on the ice with my school-fellows, watching the doings of the booth and tent people, and the printing-press; and, indeed, enjoying all the humour of the great fair on the Thames.

“This, however, was of short duration, for my father was very anxious to get me into harness, so he made me come into the nursery, and presented me with a new spade.

“By way of showing how things stood, I may observe that my father was manager of a nursery of twenty-four acres, and a respectable seed business; at that period known as ‘Howey's Nursery,’ and situated at the end of the Richmond Road, nigh to the Fox and Hounds Inn, at the upper end of the town of Putney. This Nursery was accounted the oldest in England but one, then existing; the oldest being Brompton Park. How correct this received opinion was I know not, but we had old journals dating as far back (I speak from memory) as about 1702, or, as I think, much earlier. Great amusement these old leathern-backed, mummy-looking journals used to afford me; the entries strongly reminded me of what I had read in that funny old gardening book, ‘Flora, Ceres, and Pomona,’ by John Rea, Gentleman,’ of which I then had a copy—worm-eaten. This nursery had been in the hands of the Hunt family for a considerable period previous to the Howeys; and I should fancy that Hunt had been a contemporary of London and Wise. The Hunts failed, and Mr. William Howey, a Northumberland gardener of some standing, succeeded to the Nursery. He left two sons, John and Robert; they both died in a short period after succeeding to the business; and John, a married man, left his share to his widow, and Robert, unmarried, left his to his aunt, Mrs. Martha Howey, a sage old lady, and sister to old Mr. William who succeeded the Hunts. Thus were two middle-aged females left a business which they were by no means able to conduct; and my father, a Northumberland gardener, was engaged to conduct it for them, which he did from about 1805 to about 1822, as near as I can remember; much respected by practical gardeners for miles around.

“I hope to be pardoned for this digression, but I could scarcely carry out my tale without stepping aside for a moment. I now return to my own little history. I was kept in the nursery entirely for several months, in order to teach me how to “rough it,” and afterwards spent my time between the counting-house, the seed shop, and the nursery. I was then about fourteen years of age, and after being there several months, my father was induced to put me to the law, and accordingly I went on trial for a couple of months to a house in Fenchurch Street; but I soon gladly returned to my homestead. There were no birds' nests in Fenchurch Street, and I was not, I suppose, of the right material to make a lawyer of. I now continued in the



Robert Livingston

nursery and seed line for three years, or rather more; in fact, until I could transact business almost as well as my father; when, all of a sudden, I took it in my head I would be a gardener. At that time Melrose Hall, West Hill, Wandsworth, was noted for good practical gardening; Mr. Kershaw being the gardener, a man well known to all good gardeners of the day; and my father placed me under Mr. Kershaw, where I remained, as far as I can remember, about three years; and now, fancying myself pretty knowing, as is customary with youths at that age, when of a highly sanguine temperament, I thought I

should like a year's run in a London nursery, to learn something more about plants and their culture.

"I accordingly got into Jenkins's Nursery, opposite the Yorkshire Stingo, in the New Road, London, where I remained from, I think, February until the end of October, when I was hired to succeed my brother as gardener to Josh. Alcock, Esq., Rochampton; my brother removing to the next seat, then Viscount Clifden's, now, I believe, Lady Dover's. In less than a couple of years Mr. Alcock died, and Sir Robert Gifford, then Attorney-General, took the place for six months; and I still continued, representing both

parties. At the end of that period Sir Robert purchased it, and in a few months after was created Baron Gifford, and made 'Master of the Rolls.' The family were at once satisfied with me, and I was hired, without hesitation, to continue on; and I remained until the lamentably sudden decease of Lord Gifford, and, indeed, for a year or more afterwards; when, desiring a change, I applied to the late Mr. Josh. Knight, of the Exotic Nursery, who, in a week or so, sent me down to Oulton Park, where I have now been nearly twenty-nine years. Thus ends, or nearly so, my little history for the present.

"I was always particularly fond of reading, and being partial to works of imagination, I generally managed to fancy myself the hero of the plot before I had finished the work.

"I certainly was blessed with as good a memory as most young men; and an impression once made was not easily effaced. I was so fond of scrutinising botanical catalogues, that I had learned the names and definitions of hundreds of plants before I had seen them; and thus, subsequently, I fell readily in with their history and character the moment I saw them. Speaking of warm fancies, I was always passionately fond of flowers, and must continue so; and when about ten years old, my father gave me possession of one long, front shelf in the greenhouse to put my seedling Geraniums on; and I can never forget with what a feeling of something like veneration I always approached this shelf. I had a batch of seedlings raised simply from the old *Cuculatum*, a Cape species, I believe, and others of that caste now forgotten; and nothing could persuade me but that I could tell the exact colour and character of every one before it bloomed. When they came to blossom, however, how deceived was I; and this was the first, perhaps, of a series of checks which have continued through life, eminently qualified to cool something, perhaps, very nearly allied to self-esteem.

"Of one thing I am proud,—that I have had the pleasure of acting with some good men and true, in my day, as to gardening affairs—some of whom may be found in this "Gallery"—in disseminating many sound facts connected with practical gardening, and also of dispelling many an error; and we have not 'fallen out by the way.'

"I had the honour of serving, when I first came to Oulton, the father of the present Baronet; and now I may state that I have had the gratification of rearing, so far, by God's blessing, eleven children; and three of them, young men, are and have been under a course of training as gardeners in some of the best situations for that purpose in the country. I trust they will justify my hopes concerning them. Of my present worthy employer, Sir P. de M. Grey Egerton, Bart., M.P., I need say little; he is too well known, both in the scientific world and otherwise, to require any comment from me.

"In conclusion, I may add, that I have had one singular gratification in sitting for my portrait; it was taken in Addison's chair. I can only wish inspiration from the chair had enabled me to give these few remarks to the world as Addison would have given them."

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO. V.

THE PARK—THE Paddock.

(Continued from page 86.)

THERE is another very popular style of planting, which is open to grave objection, viz., that of dotting about single trees in every available space, without any reference to each other, or to the existing groups, as regards pleasing combinations; the sole object being to place a tree wherever room can be found for one. While the trees are young and small the ill effects of such an arrangement, or, rather, non-arrangement, are not perceptible to any extent; but when they begin to fill up the confined spaces in which they are planted, and by reaching above the eye, obstruct many pleasing views, regret, in a great measure, detracts from the pleasure which would otherwise be felt in possessing what are, perhaps, not only handsome, but valuable and unique specimens. In planting trees solely for ornament, many

circumstances require consideration; and upon giving them due attention much of the gratification to be subsequently derived will depend.

The beauty of individual specimens, as well as groups of trees, is often marred, to a great extent, by the means employed to protect them from cattle. None of these are more objectionable than the abomination termed a crate. Where such heavy-looking and unsightly objects are thickly placed, as they often are, the effect is disagreeable in the extreme, and as they have to be endured for years, any substitute that will afford equal protection without their objectionable appearance should be readily adopted.

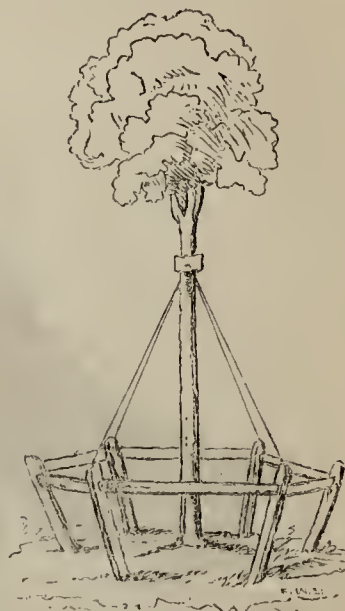


Fig. 8.

The accompanying sketch (Fig. 8) illustrates a contrivance which combines both support and protection from cattle, and is, besides, neat in appearance. This fence, by being entirely below the eye, is very little seen, and the supports of the tree being of wire are scarcely to be distinguished, except upon close examination. If the whole were of iron it would, of course, be still less objectionable on the score of appearance. The uprights of the fence, as given in the sketch, are supposed to be stout piles, six in number, driven into the ground at an angle of about 45°, at a sufficient distance from the tree, to prevent cattle from reaching the stem or branches. The uprights should be about three feet six inches out of the ground. They are connected by rails placed horizontally, and sufficiently close to prevent sheep from getting between them. From the tops of three or four of these uprights, stout wires are fixed, the upper ends meeting at the tree, where they are attached to a collar, which should be somewhat larger than the stem it is to surround; the intervening space is then to be filled with hay or moss, and properly secured to prevent damage to the bark. These wire supports are, of course, only required when the tree is newly planted: by employing them, stakes, which are rarely effective, and always objectionable in appearance, are entirely dispensed with.

A park, if of any extent, as well as the grounds beyond its pale, generally offers interesting bits of home scenery and distant views, it becomes, therefore, advisable to form "drives" by which they may be available, and to afford the occupier and his friends the means of enjoying rural and retired rides; for there is always a gratification in being able to make a pleasant excursion within the boundaries of one's own property. Now, the drives usually met with are by no means what they ought to be. They are not cheerful enough. The pleasing features of the route are not seized upon, or, perhaps, an uninteresting one has been chosen. There is a dullness, a monotony, about most of them, which soon tires from their lack of interest. In a word, the prevailing object would seem to be to make a long drive, and to leave its interest entirely to chance, or, at least, to make that of secondary importance. Yet a drive round an exten-

sive property, or a walk round a paddock, are alike capable of affording very many points of beauty, and of adding greatly to the interest of the grounds to which they belong; and if seats, pavilions, and rustic, or other buildings, in situations where they are appropriate, are added, the interest is much augmented.

In large estates there will, of course, be many cottages about the grounds, some of which will necessarily, and very appropriately, add features of interest to the drives. They should, both in their style of architecture and in their general keeping about them, be much superior to the ordinary labourers' cottage, so common on every wayside. Nor should their interior arrangements be forgotten. Every day proves that the moral character of a man depends very much upon the kind of habitation that he dwells in.

It would be difficult to imagine any kind of scenery, however so beautiful in itself, that would not be enhanced by the introduction of water. This fact is so fully acknowledged and appreciated, that attempts are constantly being made, even under the most adverse circumstances, to introduce it; often with good effect, but more frequently with indifferent success. But as there is scarcely a situation in which its presence would not be pleasing in some degree, it is frequently tolerated, where, if we appeal to our better judgment, it is found to be incongruous, not only with itself, but the scenery around it. A great part of the pleasure that we feel in looking upon a piece of water is due either to its glitter, transparency, or motion; for when we meet with a stagnant pond, or an imitation river in which the water is muddy and motionless, we experience disgust rather than pleasure. Yet the latter result is very often all that can be accomplished, even after the expenditure of much time and money. Where such results can be foreseen, it would certainly be much the wiser plan to be content without the water; for, indeed, very little gratification will be experienced from it. And, again, where the means by which an artificial piece of water has to be made, or a natural one brought into view must necessarily be conspicuous, neither should be attempted; for if accomplished under such circumstances the otherwise pleasing results will be very much detracted from.

When water is introduced into the scenery of a park, it should be so managed, that from whatever point of view the house is seen in connection with it, the water shall appear on the lowest ground; if otherwise, the spectator will be impressed with the idea that the house is low and damp.

It sometimes happens that a public footway leads through a park. This is usually considered as a great blemish and annoyance, and much ill-feeling and numberless law suits have arisen out of attempts to abolish the right of way of such paths. Now, unless such a footway passes very near a residence, I cannot conceive any great objection to it; on the contrary, it appears to me to be a source of interest, and that it is calculated to enliven what otherwise would be dull and monotonous. The passing and re-passing of pedestrians gives life and animation to the scene. The little petty depredations that may possibly be committed by a few would certainly not be of sufficient importance to induce the attempt, even if it were possible, to deprive hundreds of the pleasure of an evening ramble, or the convenience of a short cut to the next village, or to prolong the labourer's journey to his cottage after the toils of the day are over. Let us hope not.—G. LOVELL, *Landscape Gardener, Bagshot.*

CHILDREN'S GARDENS.

NO. III.

THE situation chosen, and the tenant installed, we next come to the planting.

A few perennial border roots will make a good beginning, being easy of cultivation and producing an early effect. By the time this is in print many hardy annuals will be above ground, the thinnings from which may be usefully devoted to the same purpose. A little later, the half-hardies, as German Stocks, Asters, &c., will require planting out, a few of these may be available, as it seldom happens that there are not some over after furnishing a bed. And here a word to my professional readers on behalf of my young friends. It

will show a kindly feeling, and increase the good opinion of your employers, if any overplus of this sort is thus bestowed. I once hinted as much to a gardener, who, I observed, threw everything of the kind upon the rubbish-heap. "So I would, sir, but Master George runs over my borders, and makes me so much extra work." The complaint was indeed true, but the event proved that a little tact would have remedied the evil; for a new man, receiving the same hint, acted upon it, and George had too much right feeling to annoy one who did his best to oblige him.

By these means an ample stock may be provided, especially if a little forethought be exercised at sowing time. A word now about the disposal of the gifts. Give a little boy half-a-dozen Asters, or Stocks, leaving him to plant them, and ten to one he puts them in singly, as far from one another as he can; but show him, beforehand, the effects of a cluster of Crocuses contrasted with that produced by distributing them separately, and he will at once see the advantage of grouping. I admit, that if my recommendations be carried out, the result will be a very miscellaneous assemblage; but I do not reckon this a fault, provided the young gardener is assisted to arrange it so that the plants shall not hide or crowd each other.

Here some reader may say, "You are advising a mixed border for a child, the very thing Mr. Beaton esteems so difficult to arrange." True, yet, with a difference. Mr. B's. object and mine are distinct. He very properly looks to perfection: I have chiefly to consider what is most likely to produce a love for flowers, and a practical acquaintance with their cultivation, both which objects are, I believe, likely to be attained by my plan. I have found that a child's interest in his garden seldom ceases while he has one flower in bloom, or one about to burst forth. It is not so much the general effect as the individuals that he regards, and I would make use of the fact to enlarge his knowledge of plants, esteeming it an advantage gained even if the arrangement should fall short of what could be desired.—E.

(To be continued.)

NEW BOOKS.

AGRICULTURAL CHEMISTRY.*—The author of this work is very favourably known not only as the principal of the Kewington Agricultural and Chemical College, but as a lecturer upon similar subjects. The volume before us is a republication of some of his lectures, and they abound with useful information. We will give only one extract, and we select it because it enables us to answer the question of a correspondent (L. N., *Leominster*) who asks—"What are the peculiar features of the Lois Weedon system of cultivation?"

Mr. Nisbet says:—"This leads me to notice the experiments of the Rev. Mr. Smith, of Lois Weedon, Northamptonshire. That gentleman has been growing wheat upon the same field year after year without the slightest addition of manure; he has, in fact, been carrying out Jethro Tull's plan. Jethro Tull had a notion that by pulverising the soil to a very great extent, he could make it sufficiently fine to pass through the pores of the roots and enter the plants, and that thus he could effectually provide against the want of manure. Now, although he had got hold of a bad theory, his practice was to a great extent sound; as was proved by his producing wheat in this way year after year for a considerable period. His plan, however, went out of use, and has not been followed for many years. Within the last four or five years, the Rev. Mr. Smith, who has a few acres of land which is tolerably stiff, moderately absorbent, and well provided with mineral ingredients, has been trying experiments of a similar nature. Has he succeeded, you will ask, in producing a crop without manure? He has—not without manure in the sense in which I use the word, but without manure in the sense in which you are accustomed to use it. He has not applied cart-loads of dung to his

* On Agricultural Chemistry, and the nature and properties of Peruvian Guano. By J. C. Nisbet, F.C.S., &c. Third Edition. Longman and Co., London.

land, but he has made use of methods by which he has been enabled to obtain manure in a form in which you do not generally recognise it; and this is one of the great points I have to bring before you, that you may fully recognise the fact that there are other sources of manure besides cart-loads of dung, straw, or guano. After having well prepared the whole field by thorough digging and forking, Mr. Smith dibbles his wheat in rows of three together, each one foot apart, and with a distance of three feet between every three rows of wheat. When the wheat is up, the one-foot intervals between it are repeatedly dug or turned by a fork about six inches wide, so as not to come nearer the wheat than three inches. Weeds are thus eradicated, and air admitted to the roots. The three-feet intervals are treated throughout the spring and summer as *fallows*, and are thoroughly turned over in every direction, and well exposed to the air. This is done up to the time when the wheat almost meets over the three-feet spaces. When the crop is ripe it is cut; and the three-feet *fallowed*

intervals are now dibbled with wheat, while the part which bore the wheat is to be fallow. During the last four or five years, Mr. Smith has taken, on an average, from thirty to forty bushels per acre from his land without any addition of manure in the shape of guano or dung, or any other visible matter. He has, however, been manuring all the time; because, through the constant stirring, there has been a powerful absorption of materials from the air; nitre-beds have been formed, and the result produced is the same that would follow from an absolute dressing of nitrate of soda. In cases where the soil has been light, and where the absorbent power has not existed so powerfully, he has used manure, with, I believe, very fair success. He shows a profit of £4 or £5 an acre on his wheat every year. He every year publishes a fresh statement of what he has been doing, and he says that even at the low price of 40s. per quarter, he realises a profit of several pounds per acre. On lighter soils, as I have said, he is obliged to employ visible manures."

EDWARDS'S EARWIG TRAP.

EVERY Dahlia grower knows how unsightly are the inverted flower-pots placed upon stakes with moss inside for the purpose of seducing Earwigs to repose there. Such decoys, however, are absolutely necessary, for it is simply absurd to attempt keeping Earwigs from crawling up the stems of the plants. It is absurd because these insects have wings. Mr. Edwards, therefore, has invented the above-named very neat trap, to substitute for the inverted garden-pot. We happen to know that five hundred of them have been sent to Mr. Turner, florist, Slough, and twelve hundred to Mr. Keynes, florist, of Salisbury, two of the most celebrated Dahlia growers of England. The following is Mr. Edwards's statement:—

"The Earwig Trap is a bell-shaped iron box, preserved from atmospherical injury by being japanned; its colour is a dark shade of olive green; it is three inches in diameter at the bottom, and four inches high.

"Figure 1 is a representation of the external appearance of the trap, and Figure 2 is a section showing the internal arrangement.

A is a fluted cone, open at top and bottom. B is another cone of plain metal, joined to the top of cone A, but having a wider base, so that there is a clear space about half-an-inch wide between the cone A and the cone B. C is a third cone, joined to the others at the top, but spreading at the bottom, so as to leave another half-inch space between it and the middle cone B. D is the outer case, fitting closely round the base of the cone A. E is a moveable cover or lid.

"In using the trap, the training stick is placed inside the fluted cone A, the projecting portions of the flutes hold the stick tightly, and there are spaces for the insects to crawl up; a little coarse sugar is placed inside the trap. The insects enter the trap through the opening at the top of the cones, and passing down the outside of the cone C, drop on to the bottom of the case D; they are now effectually imprisoned, for there is no other outlet than the hole by which they entered, to reach which they must traverse the whole up and down route intimated by the dotted lines and arrows in Figure 2, besides which they will have to turn the sharp angles at the bottom of the cones, a process almost impossible to them from the peculiar construction of their bodies, the legs being all at one end, and the chief weight at the other.

"Earwigs are the most destructive insects that the florist and horticulturist have to contend against; they feed chiefly upon substances containing saccharine matter, such as the most luscious fruits, and the tender petals of flowers; they never feed in the day-time, but as evening closes in they begin to move, and they are in constant activity during the night. Their bodies being a favourite food of all kinds of birds, an instinct of self-preservation induces them, on the approach of daylight, to seek for dark, close, and safe

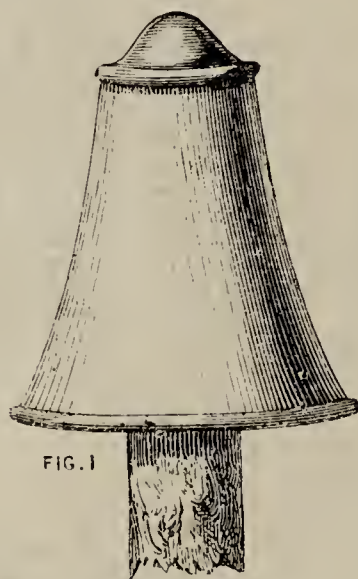


FIG. 1

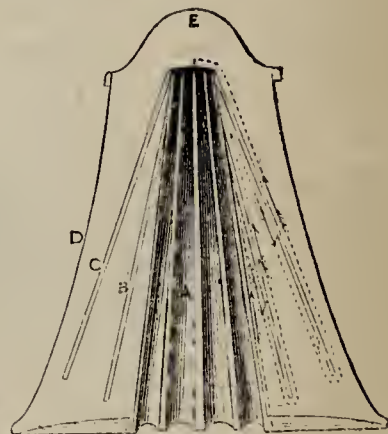


FIG. 2

places to roost in during the day, and it is singular that they always climb as high as possible in search of such places.

"Taking advantage of this instinct, the plan hitherto adopted for their destruction has been to place an inverted flower-pot, containing a little moss, or other soft material, on the top of the training stick, these pots being examined daily, and the earwigs killed. This has been a very troublesome and ineffectual remedy, for it was found that many escaped. The appearance, moreover, of the pots, was so downright ugly, and was such a disfigurement to an otherwise tastefully-kept garden, that the wonder is that the Dahlia has not been excluded altogether from ornamental gardens.

"The little invention now offered to the florist will obviate both these objections. It is ornamental in shape, forming an elegant terminal to the training stick, and being japanned of a fine neutral tint of olive green, it is a pleasing object to the eye.

"Its utility is no matter of speculation, as it was thoroughly tested during the season of 1855, by one of the most eminent Dahlia growers in the kingdom, whose report on the subject appears in the *Florist* for October in that year. It may, however, be mentioned here, that as many as sixty earwigs have been caught in one trap in a single night."

QUERIES AND ANSWERS.

GARDENING.

A RUSTIC BASKET GAY IN SUMMER.

"W. W. will feel greatly obliged to THE COTTAGE GARDENER if he would tell him the best method of planting

the enclosed rustic wood basket, so as to have a brilliant appearance during June, July, August, and September. Last year he planted it with Geraniums, Verbenas, Nasturtiums, &c., which failed, owing to exhaustion of soil. This year the bottom of the basket has been knocked out, and the soil now goes to the very bottom of the pedestal. A few hints on the construction and management of rustic baskets, especially if accompanied with sketches of various kinds, would be a great boon to the subscribers of THE COTTAGE GARDENER."

[Your rustic basket is of the very best design for a flower-garden; and if people would but countenance such artistic designs, instead of the present race of hideous mongrels which offend the eye at almost every turn round London, it would be really worth while to write about how to fill them with the most appropriate flowers. Some people have run away with the foolish notion that we are opposed to the whole art of rustic work. Nothing can be more from the truth, however. It is only such rustic work as sets all the rules of art out of the question at which we are so much offended, and for which we hope never to have any sympathy whatever. There is nothing in stone or marble, or in all Italy, which may not be copied in rustic work, if public taste would learn that way; but to speak within real bounds, have we not already more than enough of outrageous designs in flower-beds? Stars, triangles, and angles of all degrees, kidney-potato shapes, hearts that never "feel for another," goats, pelicans, and Arabian ponies, and goodness knows how many more deformities besides! But go to the Crystal Palace, Shrubland Park, or to Trentham, or any other such places, and study what classical forms and figures they patronise there in the gardens. Copy a few of the designs in each place, and send them to our office, and we shall select, and engrave, and plant, and manage as many kinds as will satisfy the whole country. But never can we applaud the bull-frog and lobster's-claws of the common run of rustic baskets.]

"W. W.'s" rustic basket should not have more than twelve inches depth of mould in it. On no account leave the pedestal full of mould, at least, not more than this season. All baskets and vases should have more-holding soil than flower-beds for the same plants; a stronger kind of loam—In a country place, sheep's droppings, gathered a month before, make the best manure, and give the best mechanical texture to the loam. Three inches at the top should be mixed with leaf-mould and some sand, so as to make a light, rich, mellow soil of it. They plant and manage the vases very well indeed at the Crystal Palace. But you may make your rustic basket more gay and telling than any of their vases, if, after attending to the compost just indicated, you keep the planting strictly to three kinds of plants; two of them to be of most distinct colours—scarlet and yellow; and the third a half distinct colour—a pale blue; and plant them on this wise: Take, first, a pale blue running *Lobelia* of the *Erius* breed; they are in all the nurseries, but avoid *Ramosoides*, it is too upright, and too dark a blue next the wood-work. Nothing suits so well here as a pale blue. The plants are in 60-pots, turn one out, and flatten the ball gently between your hands till it is nearly as flat as a pan cake, but do not hurt a root. Open the side at the very edge of your basket, and lay down the flattened ball with the root end of the plant as near the rim as possible; the herb part of the plant will then point out horizontally over the edge of the basket, and so on all round, making nearly a continuous hedge all round. Smooth the surface of the basket now, and plant a row of young *Tom Thumbs*, with the heads slanting. After the *Lobelias*, then another row of old *Tom Thumbs*, quite upright, and fill the middle with yellow bedding *Calceolarias*, quite full; and the plants must be old ones, and higher than the last row of Geraniums. Water well through a rose, and the thing is done for this season.—D. BEATON.]

TO CORRESPONDENTS.

NOTES BY YOUNG GARDENERS (W. Canning).—We are obliged by your praise, as well as by your notes. They are not "trashy," but they are not practical enough for publication. Try again, and send us "notes" of some culture you have adopted, such as may teach any reader to do the same.

SALT FOR POTATOES (Rev. Mr. R.).—The best saline mixture for Potatoes ever tried by us was formed of equal proportions of common salt and Epsom salt. Two pounds of each, thoroughly mixed, are enough for thirty square yards. It should be applied before the Potato-leaves appear above ground; and it is best to apply it broadcast in showery weather.

PAYNE'S COTTAGE HIVES (An Old Subscriber).—Write to Mr. Wighton, Cossey Hall, near Norwich, enclosing a stamped envelope with your address. He will be able to learn from the late Mr. Payne's son the information you require.

NAMES OF PLANTS (R. U.).—1. *Tetralthea speciosa*. 2. *Deutzia gracilis*. 3. No specimen came. (W. C. S.).—1. We believe to be the double or hose-in-hose variety of *Datura fastuosa*. If you will send us an old lower leaf of the plant we could be more certain. 2. *Nicandra physaloides*. (Alma).—1. *Punica nana*, the dwarf Pomegranate. 2. *Kennedya monophylla*. 3. *Genista canariense*. (S. C.).—*Anomatheca cruenta*.

NEW DOUBLE WHITE PETUNIA.—In answer to—"Do you know any thing of the double white Petunia, which is called *Imperialis* in the advertisements from the Wellington Nursery, in 'THE COTTAGE GARDENER?' Of course we do. It is now in full bloom in Sir William Middleton's conservatory, at Shrubland Park, and is pronounced there to be a "charming thing," of which a thousand plants will be used in various ways this season at Shrubland Park.—B.

FOUR-LEAVEN PRIMROSES (C. B.).—We never heard of any number of leaves peculiar to Primroses. There is a well-known legend attached to the four-leaved Shamrock.

GOLD FISH (A. H. Neve).—They are best kept in clear river or stream water. If some water plants are grown at the bottom, they keep the water sweet, contribute to the health of the fish, and look ornamental.

CUCUMBERS BECOMING BITTER.—A Constant Reader wishes to know the cause of this. Can any of our readers give a reply?

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close May 14th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray. HULL AND EAST RIDING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

PARIS. May 23rd to June 7th. Sec., M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

PRESCOT. July 3rd. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

POULTRY BREEDING.

"Breeders, the tale that I relate,
Instruction seems to equal.
Choose not alone a proper mate,
But a proper time to marry."

THERE are two descriptions of amateurs: those who are determined to win at all times, and at any cost; and those who wish only to do so without any great amount of labour or inconvenience. These may again be divided into those who buy, and those who breed; and these last resolve themselves into two classes: those who do so judiciously, and those who do not.

If, then, a man will be a winner at any cost, and wishes to breed his own birds, he must conform to certain rules. Fowls, like some young people, are very anxious to begin housekeeping early. They see no difficulties that cannot be easily overcome. But older birds, like older people, take matters more coolly, and wait till all things are propitious. For June and July Shows, January chickens are requisite, if success is to be depended upon. Pullets are necessary for

this, and a *ci-divant* cockerel must be put with them, a bird of "a certain age," say two years old. We are particular in naming the age, because we once saw a very fine *old* fellow strutting, as well as gout and the infirmities of age would allow him, by the side of some very smart pullets. We laughingly said to the owner, that they reminded us (reversing the personages) of the marriage in the "Rake's Progress," by Hogarth. "Why," said the lady, "you advised me to put an *old* cock with pullets." These mentioned will then be properly mated, and after the five or six first eggs of each pullet have been used for food, the others may be set. We have so lately given instructions about early chickens, we shall not repeat them.

Many builders of model cottages have abandoned the plan of erecting them in pairs, because the security afforded by the system was more than counterbalanced by the quarrels of the occupants. They are found to be every way preferable if some distance apart. Just so when the young mothers are removed from the common dwelling-house to the nursery—let not their abodes be placed close to another. Feed the chickens well; let each hen have but five, and you will stand well, if you make a proper selection.

We have always thought that the rules of matching should not be too rigorously insisted upon; but we have lately become more stringent on that head. When London was some time since very short of troops, and when a change of costume was in course of adoption, we saw a number of the Guards marching, some with the new tunic, some with the coat. It was painful to the eye; and as we view things solely as they bear on poultry, we resolved that absolute uniformity was desirable.

The pullets should be as much alike as possible; more latitude may be allowed to the cock; but even he should bear positive marks of being of the same strain.

Before a young lady is presented, she undergoes a regular tuition, and continually rehearses all the phases of the great event. The leap from the nursery to the drawing-room is a large one. So is the change from the run of a meadow to an exhibition pen. The fowls should have their rehearsal; they should be put in for some days before the exhibition, for an hour or two at a time; they should be fed in it, and taught, not only to bear the confinement, but to come forward, and woo the gaze of the Fates in the shape of Judges, who will hold their hopes of distinction in their hands. There is little prospect of success for birds that seek the darkest corner of their temporary "prison-house."

Just as a practised match-maker withdraws her charge from the ball-room before daylight, and limits her gaieties to just so much as can be borne without detriment to her charms; so really good chickens should not be over-exhibited; but the amount of fatigue they can bear should be carefully estimated, with a view to the preservation of their beauty and health.

THE STOCK DOVE, COLUMBA GENAS.

Ger. DIE HOLZTAUBE.

French. BISET DES BOIS.

THE Stock Dove, so-called from its building its nest in the stocks or holes of trees, is the second in size of our native Doves or Wood Pigeons. It appears to be well known to most of the early naturalists, but the Blue Rock Pigeon has been so frequently confused with it as to cause mistakes, therefore it is necessary to direct attention more particularly to their points of difference. In size the Stock Dove is the same as a common Pigeon, measuring in length about thirteen inches, and in width, from tip to tip of the expanded wings, twenty-six inches. The beak is about an inch long, dove-shaped, and of a whitish flesh-colour, having a purplish tinge at the nostrils; in the young the beaks are at first dark horn-coloured, but become white as they gain maturity; the forehead is full and rounded; the iris of the eye dark brown; the neck is shorter and thicker in appearance than the common Pigeon's; the shanks are short and dull red, feathered slightly over the hocks; the toes flexible, and the nails black. The colour of its plumage is a rather dark ashen-grey; the neck has a greenish gloss, like other Pigeons, but it does not extend so far as in the tame Pigeons; and the reddish-brown tinge across the lower part of the crop is very dull; there are two black spots on the

wings, which do not run across the wings in two distinct bars as in most Blue House Pigeons; the rump is greyish-blue; the tail barred with black at the extremity; and has the light band across the underside of the feathers like the Ring Dove; and the marginal edge of the outer tail feathers is not so white as in the tame Pigeons; in other respects they differ much from the house Pigeons. Their arboreal habits, perching and building on trees, frequenting the woods, the difference of their voice, their manners and mode of playing to their mate, as well as their roving habits, mark them as quite distinct from the tame Pigeons.

The Stock Dove is found in all parts of temperate Europe, in woody places. With us they breed in pairs, rather isolated, in Parks, or woods, preferring to place their nest in a hollow tree, or one thickly covered with ivy. Some naturalists say they also build on rocks, but such, I believe, is probably a mistake, owing to their being confused with the Blue Rock Pigeon. They lay two eggs at a brood, and hatch twice in the year. The cock's manner of playing to his mate is very peculiar; eyeing her with a peculiar sideways look he will make a peek at her, or feign a blow at her with his wing, then swelling out his neck, depressing his head to the earth, he makes a profound bow, at the same time spreading out and elevating his tail, giving vent to his adoration in a low hollow tone, like, Oh-hoo-ooo,—the first note being delivered audibly, the last dying away to a faint whisper. They feed on corn and seeds of various kinds. In autumn they congregate in small flocks and leave this part; whether their migration is only partial, or not, I do not know, but I believe they leave this country entirely, as I never see any in winter, and in summer they are tolerably plentiful in this neighbourhood.

The young, if taken from the nest, may be easily reared tame, but if left too long they rarely become so; if reared singly with a domestic Pigeon they remain, and stop at liberty with the other Pigeons, till the autumn migration, when mine have always then left, never to return. If a pair are brought up together, even so tame as to feed from the hand, I have always found if they had their liberty they gradually withdrew to the woods, their returns becoming less and less frequent, and that only for food. It is surprising what power of wing they have. I have seen a bird, with the whole ten flight feathers of one wing cut close, when frightened, flutter along about a foot from the ground till it had gained sufficient impetus to clear a six feet fence. I have paired them with Dragoon Pigeons, and, though they breed tolerably freely, nearly all the young died at about ten days old; out of about thirty hatched, only four lived to fly out, one of which I exhibited at the Surrey Zoological and Metropolitan Shows, December, 1853, and January, 1854; but all died before the spring, except one that was bred from a blue Antwerp cock and hen Stock Dove,—this I trained, and found her (for it was a hen) to fly remarkably sharp. She paired with a cock Dragoon, but never showed any signs of breeding, and at last died suddenly. Some naturalists say they breed freely with the tame Pigeons, but as these seem to confuse them with the Blue Rock Pigeon, as before mentioned, I conclude it was that bird that caused the error. Their flesh is considered finer flavoured than the tame Pigeon's.—B. P. BRENT.

GEESE LAYING SOFT EGGS.

I THINK by this time "Upwards and Onwards" must be somewhat vexed with his remarks at the foot of his communication. If my letter had been attentively read, he would have found my boy more truthful than it appears your correspondent has given him credit for; and how his letter is to remove any strictures of mine on poultry fancies I cannot for the life of me see, unless I leave a vast deal to imagination, and deduce as great and lucid a conclusion that he means well as in my ease; only there is this material difference, "my Geese will not prove hens."

I cheerfully reply to "G. M."—The sixteen drachms of castor oil were tided over for a week (a drachm being a moderate-sized teaspoonful), and not too much for a large fat goose; indeed, I should begin with three in the morning, and, if not thoroughly satisfactory, the same the next morning. You need not trouble yourself about Carrot soup, or

any such greasy mess; the residue of a stock-pot is the worst food animals can indulge in for any length of time. The nails I spoke of is a plan I have adopted for some years, and with general success, *vide* No. 384, page 342, article headed "Spanish Preventive of the Roup." The exercise I should curtail, *i.e.*, confine her, and diet her on anything but oats, say grains and potatoes. These remarks are applicable more especially to birds laying soft eggs for any continuance; but for the double-yolked evil there must be some ovarian cause, probably structural; still there is but one remedy, non-stimulating diet, setting the secretions in order, and rest, and, perhaps, an absence from her partner.—W. H., *Exeter*.

MUCH ADO ABOUT NOTHING.

"J'appelle un chat, un chat."—Boileau.

WHAT a disturbance you have in your columns about the names of fowls, and to what does it tend? Hambro's are not Hambro's, Polands are not Polands, Spanish are not Spanish. What proof have you, say the new school, that they are properly named? Did they come from Hambro', Poland, and Spain? I answer, I cannot say; but after thirty years constant intercourse with poultry and poultry fanciers, I know that the birds in question during that time have been known by those names.

Many years since, nearly all we had were imported from Holland, and they were represented in the invoices as I have stated. No Hambro' had a topknot, all the Spanish were black, and had more or less of the white face, and there never came a spangled fowl.

I do protest against the use of the term "Pheasant fowl." It is the remnant of a folly as great as living witches. In the old "infallible signs for detecting a witch," we are told that teats or wounds would be found on the body where the imps sucked; and in the "Pheasant fowl," we are told the spangles result from the mixture of Pheasant blood. I would as soon believe one as the other. Any intermixture of Pheasant blood produces a "hybrid." But it will be said that it is not believed there is any mixture of Pheasant. Then, why use the term, and thereby give those who cling to *old* fallacies a colour for so doing? Call them Mosses or Moonies, if you will, but no Pheasants.

Then, others say Hambro's should have topknots. Where was this idea found? Who first discovered such a bird as a topknotted Hambro'? It is a dream—a fancy. We shall next hear of the Ptarmigans and Serai-ta-ooks being called Hambro's. The topknot has always been considered the necessary appendage of a Poland fowl. Rob them not of their varieties.

And the Spanish, what wasted eloquence to prove the red-faced are as truly Spanish as the white-faced. Tell me, says one, have you ever had a white-faced bird from Spain? We are bound to answer in the negative. There is triumph! Unabashed, we say it proves nothing. If there never was a white-faced bird in the Peninsular, we still say they are the Spanish fowl. They are known as such; they always have been; and we see nothing to gain by changing the name. But, says the exhibitor, my red-faced are from Spain direct; *ergo*, they *are* Spanish fowls. True, we answer, but they are not what we call Spanish fowls in this country. They were known, and are still known, as Minorcas in the west of England, and are called, in some parts of Spain, the Moorish fowl. Their dark red faces and swarthy black hair on them may well have gained them the appellation. Every Spanish fowl, as understood in England, must have *some* white in the face. Then comes a plea for the Andalusians, I believe these latter are an offshoot or cross from the Spanish, but they are not Spanish fowls. In these days, any fowls that can pretend to purity may make a class for themselves. Let their owners be content with this, and I beseech them not to trouble a classification which it took years to arrange and settle.—ANTI-DISTURBANCE.

ROYAL AGRICULTURAL SOCIETY'S SHOW.

To be held at Chelmsford, in the week commencing July the 16th.

REGULATIONS FOR THE POULTRY DEPARTMENT.

1. Members of the Society to pay 2s. 6d., and non-members 5s. on each pen.
2. All pens will be disqualified if the plumage of the birds shall have been trimmed, removed, or otherwise tampered with.
3. Proper persons will be appointed by the Society to attend to and feed the birds sent without a servant in charge.
4. After the Show, the Society's men, only, will be allowed to remove the birds from the pens, and place them in the baskets.
5. The birds will only be given up on the production of the "Delivery Order," signed by the exhibitor or his servant; excepting when the owners may desire to have their poultry returned to them by railway, in which cases the signatures of the railway servants, acknowledging their receipt, will be sufficient.
6. In no case will the Society be responsible for the safety of either the birds or the packages.

GENERAL REGULATIONS.

Certificates.

1. The necessary printed forms of Certificates may be obtained from the Secretary, at No. 12, Hanover Square, London, by persons desirous of exhibiting Live Stock.
2. No stock whatever will be admitted for exhibition, unless the necessary certificates, filled in, upon the printed forms prescribed complete, and signed by the exhibitor (or his agent) in the manner directed, have been delivered to the Secretary, or sent (postage free) directed to him, so as to reach No. 12, Hanover Square, London, before the 1st of June. The Secretary will acknowledge, by return of post, the due receipt of all certificates sent to him one week before the 1st of June, and the receipt of all others as soon afterwards as the pressure of business at that time will permit.
3. CAUTION.—In order to prevent disappointment, all persons intending to become exhibitors of Cattle, Horses, Sheep, Pigs, or Farm Poultry, at the Chelmsford Meeting, must *distinctly understand*, that no Certificate will, under any circumstances, or on any plea, be accepted, unless delivered or forwarded (properly filled up and completed), so as to reach the Office of the Society, No. 12, Hanover Square, London, free of charge, before the 1st of June, 1856. No answers to enquiries will be transmitted by Electric Telegraph.
4. Non-members will be required to pay Ten Shillings on each certificate for Cattle, Horses, Sheep, and Pigs, and Five Shillings on each certificate for Poultry, before obtaining Orders for the admission of their animals into the Show-yard. *This payment must be made to the Secretary before the first of June.* No Member of the Society who is in arrear of subscription will be allowed to make an entry until his subscription shall have been paid.
5. The Name and Residence (when known) of the Breeder of each animal entered for exhibition should be stated.
6. The age of each animal, calculated up to the 1st of July (instead of as formerly, up to the day of the Show), must be stated in the certificate. In all cases the age of the animal is to be computed from the day of its birth, excepting in the case of Horses, when the year only will be required.
7. The same animal cannot be entered in two classes for the general prizes of the Society.
8. In every certificate for live Stock the exhibitor will be required to sign an engagement, to forfeit and pay to the Society the sum of £20, as and for liquidated damages, if the animal, or any of the animals (as the case may be) which he exhibits are, to his knowledge, suffering under any contagious or infectious disease.

GENERAL RULES.

18. CAUTION.—In order to prevent disappointment, all persons intending to become exhibitors of Cattle, Horses, Sheep, Pigs, or Farm Poultry, at the Chelmsford Meeting, must *distinctly understand*, that no Certificate will, under any circumstances, or on any plea, be accepted, unless delivered or forwarded (properly filled up and completed), so as to reach the Office of the Society, No. 12, Hanover Square, London, before the 1st of June, 1856.

19. No animal which has won a first prize in any class at a previous meeting of the Society will be allowed to compete for a similar prize at the Meeting at Chelmsford.

20. Any person who shall have been shown, to the satisfaction of the Council, to have been excluded from exhibiting for prizes at the exhibition of any society, in consequence of having been convicted of an attempt to obtain a prize by giving a false certificate, shall not be allowed to compete for any of the prizes offered by the Royal Agricultural Society of England, or at any of their Meetings.

21. Any prize will be withheld when the Judges are of opinion that there is not sufficient merit in the stock exhibited for such prize to justify an award.

22. All servants coming in charge of Stock will be subject to the orders of the Director and Stewards of the Cattle Yard.

23. No animal can be removed from its place, or taken out of the Show Yard, without leave, in writing, from the Director or the Stewards of the Cattle Yard.

25. In order to check the non-exhibition of animals which have been entered for the Show, thus causing the Society to make unnecessary preparations, and incur unnecessary expenses, and also to prevent the Show Yard from being disarranged, a fine of 10s. will be levied on each entry of Stock, which shall not be exhibited, unless a certificate under the hand of the Exhibitor, or his authorised agent, be lodged with the Secretary of the Society on or before the day of exhibition, proving to the satisfaction of the Council that such non-exhibition is caused by one or other of the following circumstances:—(1) The death of the animal or animals, (2) Contagious or infectious disease, or (3) Unavoidable injury, sufficient to prevent such stock from being exhibited. All persons who shall neglect to pay in due course the stated fines incurred for such non-exhibition shall be debarred from exhibiting at the future Country Meetings of the Society.

PROTESTS.

The Stewards will be instructed to endeavour, if possible, to decide all protests against the awards of the Judges at the country meetings, before the conclusion of the meeting; such protests must be delivered to the Stewards, at the Directors' Office, in the Show Yard, before six o'clock on the Thursday evening of the show week; and no protest will be subsequently received, unless satisfactory reasons be assigned for the delay.

ALLOWING HENS TO SIT.—PEPPERCORNS FOR CHICKENS.

In the middle of February last one of my hens had a hatch of chickens. She was very attentive to them for about six weeks, when she suddenly left them, and began laying. She had layed about twelve or sixteen eggs, and became broody, and appears anxious to sit again. Would you advise me to sit her so soon? Would it be injurious to her health?

Is it proper to give chickens "peppercorns" just at birth?

One of my chicks has *thirteen* toes. My curiosity is roused to know if this is a singular case, never having heard nor read of such a thing before. Seven are on one claw, six on the other.—G. I.

[We always allow a hen to sit when she is so disposed, as it is the natural process. It gives her rest after her laying season. No hen can be depended upon to tend her chickens after she has recommenced laying.

It is cruelty to give chickens peppercorns when they are first hatched, and it will kill them sooner than neglect would. They want no feeding at all for the first few hours. They should be taken out of the nest as fast as they are hatched, and put in a basket, in flannel, before the fire. When all are out, the nest should be cleaned, then let them be under the hen for a few hours; after which feed and treat as usual.

It is uncommon for a chicken to have thirteen toes; but Dorkings often have twelve.]

FOWLS KILLED BY EATING POISONOUS INSECTS.—A correspondent at West Mersca states that seven chickens have died in that place in about half-an-hour after eat-

ing a peculiar kind of poisonous insect (a specimen of which he sends us), said to have been brought home with some fish called "Five-fingers," collected for the purposes of manure. Three other chickens and four hens fell victims in an hour or two after feasting on the same.—*Chelmsford Mercury*.

OUR LETTER BOX.

THE POULTRY BOOK (G. T. T.).—We cannot state anything about this. The second edition has been placed for editing in the hands of a gentleman who was not one of the original authors; and it was announced for publication on the 1st of May.

GOLD-SPANGLED HAMBURGH COCK (W. H.).—The Gold-spangled Hamburg cock should have a *spangled* breast. The wings should be barred and laced; and the hackle and saddle feathers should be striped with black. He cannot be too much spangled.

GOLD AND SILVER PHEASANTS (J. T. C.).—We know of no publication that treats of Pheasants. We are publishing a paper on the subject in *THE COTTAGE GARDENER*. Grits may be added to the food therein mentioned. As the Golden are not so hardy as the common Pheasant, the hen should be kept under the rip till the birds are two months old.

OLD-FASHIONED SPECKLED DORKINGS (E. E. P.).—The vendor of these was Captain Squire, Mildenhall, Suffolk.

PRESERVING EGGS THROUGH WINTER (A Subscriber).—The most successful practice we ever knew was greasing each egg thoroughly all over with melted suet, and storing them in their greased state in a cool, dark, and dry place.

HOWDEN POULTRY SHOW (Beta).—Shows not thought worthy of either being advertised in our columns, or noticed in any way by its Secretary, cannot be expected to be reported by us. We never heard of it. We are much obliged by your list of prizes; but it is now too late.

LONDON MARKETS.—MAY 12TH.

COVENT GARDEN.

Supply very much shortened owing to the severity of the weather and sweeping winds during the past week. It has also interfered with the continental shipments, which have been very irregular. Frosts having been more or less felt during the past week, we fear must have told very much on the Plums and wall fruit. Cornish Brocoli is now over, but we still receive some excellent Asparagus, and considerable quantities of Potatoes; the latter realising from 4d. to 8d. per pound.

FRUIT.

Apples, Kitchen, per bushel.....	6s. to 10s.	Seville Oranges, do....	6s. ,, 12s.
" dessert	6s. ,, 10s.	Lemons	6s. ,, 12s.
Pears, per dozen	1s. ,, 3s.	Almonds, per lb.....	2s. ,, —
Pine-apples, per lb....	8s. ,, 12s.	Nuts, Filberts, per 100lbs.	50s. ,, 60s.
Foreign Grapes, per lb. 3s. ,, 4s.		" Cobs, ditto	60s. ,, 70s.
Hothouse ditto, ditto 12s. ,, 20s.		" Barcelona, per bushel.....	20s. ,, 22s.
Strawberries, per oz. ..	1s. ,, 2s.	Nuts, Brazil, ditto....	12s. ,, 14s.
Foreign Melons, each ..	0s. ,, 0s.	Walnuts, per 1000 ..	9s. ,, 12s.
Oranges, per 100	4s. ,, 10s.	Chestnuts, per bushel 15s. ,, 24s.	

VEGETABLES.

Cabbages, per doz. ..	1s. to 1s. 6d.	Celery, per bunch....	9d. ,, 1s. 6d.
" Red, per doz. ..	2s. ,, 4s.	Radishes, Turnip, per dozen bunches	6d.
Cauliflowers, per doz. 4s. ,, 6s.		Water Cresses, ditto ..	6d. ,, 9d.
Brocoli per bble	1s. ,, 2s.	Small Salad, per punnet.....	2d. ,, 3d.
Savoy	1s. ,, 2s.	Artichokes, per lb.....	2d.
Greens, per doz. bnch. 4s. ,, 6s.		Asparagus, per bundle 4s. ,, 8s.	
Spinach, persieve....	— ,, 4s.	Sea-kale, per punnet 1s. 6d. ,, 2s.	
French Beans, per hundred	1s. 6d. ,, 2s.	Rhubarb, per bundle 3d. to 6d.	
Carrots, per bunch ..	4d. ,, 6d.	Cucumbers, each	1s. ,, 3s.
Parsnips, per doz.....	6d. to 9d.	Mushrooms, per pot 1s. 6d. ,, 2s.	
Beet, per doz.....	1s. to 1s. 6d.	HERBS.	
Potatoes, per cwt. ..	3s. ,, 6s.	Basil, per bunch	4d. ,, 6d.
Onions, young, ditto..	1d. ,, 2d.	Marjoram, per bunch 4d. ,, 6d.	
Turnips, per bunch ..	3d. ,, 6d.	Fennel, per bunch ..	2d. ,, 3d.
Leeks, per bunch	2d. ,, 3d.	Savory, per bunch ..	2d. ,, 3d.
Garlic, per lb.	6d. ,, 8d.	Thyme, per bunch ..	2d. ,, 3d.
Horseradish, per bundle	1s. 6d. to 2s. 6d.	Parsley, per bunch ..	2d. ,, 3d.
Shallots, per lb.	6d. ,, 1s.	Mint, per bunch	2d. ,, 4d.
Lettuce, Cos, each	6d. to 8d.	Green Mint	6d. ,, 8d.
" Cabbage per doz. 2d. ,, 3d.			

POULTRY.

The little alteration we have to note is the increased supply of small chickens, and the scarcity of larger fowls.

Large Fowls ..	7s. 6d. to 8s. each.	Quails	2s. 6d. to 2s. 9d. each.
Smaller do	6s. to 6s. 6d. ,,	Leverets ..	4s. 0d. to 5s. 0d. ,,
Chickens	3s. 0d. to 4s. 6d. ,,	Pigeons	9d. to 10d. ,,
Goslings	7s. to 7s. 6d. ,,	Rabbit	1s. 6d. to 1s. 7d. ,,
Ducklings 3s. 6d. to 4s. 3d. ,,		Wild Ditto ..	10d. to 1s. 0d. ,,
Guinea Fowl 4s. 6d. to 0s. 0d. ,,		Dottrell	0s. 0d. to 0s. 0d. ,,
Plover's Eggs, in bulk.....	3s.		

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WEEKLY CALENDAR.

D M	D W	MAY 20—26, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermio.	Wind.	Rain in Inches.						
20	Tu	<i>Oiceoptoma thoracica.</i>	29.883—29.800	68—35	N.W.	—	3 a 4	50 a 7	9 a 10	16	3 43	141
21	W	Sun's declinat. 20° 17' N.	29.662—29.830	55—46	W.	—	1	51	10 23	17	3 39	142
22	Th	<i>Oiceoptoma sinuata.</i>	29.840—29.779	64—31	N.	01	0	53	11 25	18	3 35	143
23	F	<i>Silpna opaca.</i>	29.819—29.780	60—40	S.W.	—	111	54	morn.	19	3 31	144
24	S	QUEEN VICTORIA BORN 1819.	29.761—29.760	71—44	S.	—	58	55	0 11	20	3 25	145
25	SUN	1 SUNDAY AFTER TRINITY.	29.802—29.789	78—42	S.E.	—	57	57	0 43	21	3 20	146
26	M	[PRINCESS HELENA B. 1846.]	29.876—29.759	82—58	E.	—	56	58	1 7	22	3 14	147

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 66.3°, and 44.7°, respectively. The greatest heat, 89°, occurred on the 23rd, in 1847; and the lowest cold, 29° on the 25th, in 1838. During the period 114 days were fine, and on 82 rain fell.

CYSTOPTERIS MONTANA.



This has long been known as a Fern of the highest alpine districts of Europe, North America, and Kamtschatka; but it was not until 1836 that it was ascertained to be a British species. In that year it was discovered by Mr. W. Wilson on Ben Lawers, one of the Bredalbane Mountains.

It has been called by botanists *Polypodium montanum* and *myrrhidifolium*, *Aspidium montanum*, *Cystopteris montana* and *myrrhidifolia* and *Cyathea montana*. In English it is known as the *Mountain Bladder Fern*, and *Wilson's Bladder Fern*.

The root is thread-like, scaly, black, and far-creeping. The fronds strikingly triangular in their outline. Their stalk long, stout, green, and smooth, except near the

bottom, where there are some scattered brown scales. The leaflets are alternate, and occupy only the upper third of the stalk. The lowest pair of leaflets are very much larger than the others, and doubly-leafletted; but the leaflets of the upper pairs of leaflets are only deeply lobed. The lateral veins of the leaflets are alternate, and the fructification is at the ends of these lateral veins. The masses are circular, numerous, and become very prominent as they ripen. The membrane (indusium) is nearly round, forming a hood over the spores, and having its edge jagged.

Mr. Moore observes that—

"The head-quarters in Britain of this very rare and local Fern are the Highlands of Scotland, where it was found, first on Ben Lawers, one of the Bredalbane mountains, by Mr. Wilson, in company with Professors Hooker and Graham, in 1836; and subsequently by Messrs. Gourlie, Adamson, Borrer, and Little, and Dr. Walker Arnott in 1841, 1850, and 1851, in a ravine called Corrach Dh' Oufillach, or Corrach Uachdar, between Glen Dochart and Glen Lochay, in the Mhiel Oufillach mountains in Perthshire. It is reported to have been found in North Wales by Plukenet, and we are informed that the existence of the species in Wales has been recently confirmed, though the information is incomplete; it is not, however, improbable, as the species is met with in the Alps of Europe, occurring most frequently in the north, and generally on rough stony ground. It is also a native of the Rocky Mountains of North America.

"This is strictly an Alpine plant, and requires treatment similar to that recommended for the other species, with perfect rest in winter."

THE May Meeting of THE ENTOMOLOGICAL SOCIETY was held on the 5th instant, W. W. Saunders, Esq., F.R.S., &c., in the chair. The President informed the meeting that the Entomological Society of France had recently elected Mr. Curtis one of their Honorary Members, the number of which class is very limited; Mr. Kirby having been the only other English entomologist on whom this honour had been conferred. We are happy to congratulate Mr. Curtis on this election, coming, as it does, too, at a time when his declining sight (induced by too arduous labour in the production of his great work) will render every recognition of his services to the cause of science more acceptable.

Mr. Cambridge presented to the Society specimens of *Heliothis dipsacca* and *Acidalia degeneraria*, two very rare British Moths.

Mr. Foxcroft sent for exhibition a beautiful specimen of the elegant *Petisia nubeculosa*, taken at Loch Ran-

noek. He had fortunately been able to secure sufficient specimens for all his subscribers.

Mr. Samuel Stevens exhibited a very fine individual of the *Aleucis pictaria*, taken in the middle of April, at the old locality on Dartford Heath palings.

Mr. Janson exhibited several specimens of the very rare Beetle, *Helærius quadratus*, found in ants' nests, together with four species of the curious genus *Thorictus*, from Abyssinia, Corfu, &c.

Mr. Newman exhibited a cocoon of *Heemerobius variegatus*, with the insect reared therefrom. The white cocoon had been found within a hollow chrysalis of the Magpie Moth, in which it had evidently taken shelter.

Mr. Curtis communicated a notice, by Mr. MacLean, relative to the depositing of the eggs of the *Brimstone Butterfly*, proving that this species is only single brooded.

Mr. John Scott exhibited a new British *Elachista*, nearly allied to *E. Gangabella*.

Captain Cox exhibited a specimen of the *Death's Head Moth*, taken in the Hospital at Scutari, which he described as a fitting emblem of the sad scenes connected with that locality; also, an extensive collection of drawings of the *Caterpillars* of British Moths and Butterflies, made by his wife.

Mr. Boyd exhibited a specimen of *Coleophora Wockella*, a small Moth, the caterpillar of which feeds upon *Betonica officinalis*.

Mr. White communicated a series of notes on the *Neerophagous Beetles* of India, with the description of a fine new species recently sent from Borneo by Mr. Wallace.

Mr. Samnel Stevens exhibited specimens of both sexes of the two remarkable species of Beetles, *Pentaplatarthrus Paussoides* and *Taphroderes distortus*, from Natal. Hitherto, no observation had been made on the difference of sex among the Paussidæ, to which family the former of these two species belonged, and of the latter (described and figured by Mr. Westwood in the Society's Transactions) a male had only been seen, and so singular was its structure, that it had been assumed to be an accidental monstrosity. The specimens, however, now received of both sexes proved that the distortion of the jaws was normal. The female differed, also, very materially from the male in the form of the head, and in having very small jaws.

Mr. Douglas communicated a translation of a curious account of the habits of the *Spiders* of Goree, published in Guérin's "Revue Zoologique;" and Mr. Smith read a paper on the results of a day's collection by his son, a boy thirteen years old, who had succeeded in capturing a large number of *Andrenidæ*, enabling his father to determine the sexes of several species of these Wild Bees, one of which, moreover, was infested with the parasitic *Stylops*, that strange two-winged insect, the specific identification of which, by Mr. Smith, had led him to examine carefully the figures and characters of the recorded species, the result of which was that the *Stylops Melittæ*, *S. aterrima*, *S. Childrenii*, and *S. Dalii*, appeared to him to form but one species, the published

figures of which were, with few exceptions, miserable caricatures of the insect itself, in consequence of its shrivelling up after death.

VINES AND THEIR AILMENTS.

IN offering a few remarks on Vines, in general, I would desire to attract the attention, more particularly at this period, of "the many" who, for the most part, possess but one small house, which has, of course, many duties to perform. Nevertheless, as the heading I have taken involves many considerations, we must occasionally diverge a little. Setting aside that terrible malady, the Vine disease, or *Oidium*, which many of the readers of THE COTTAGE GARDENER are by this time aware of, it will be well to turn our eyes, first, to ailments which we have all been too long familiar with, and which were known to our grandsires. After summing up all that I can remember concerning Vine culture—and my memory extends over some forty years at least—the *real* evils which have beset the Vine during that period, except the *Oidium*, are few, if my memory be worth any confidence; at the very least, three-fourths of the mishaps have been traceable to mismanagement, misconception, and, let me add, misapplication of those good things considered requisite as the food of the Vine. We have all heard of blister, of pimples on the leaves, of bad colouring, shrivelling, of longjointed wood, of would-be bunches becoming tendrils, and I do not know what; and, with me, to this hour, it remains a question whether they be not all derived from one cause: a weak action, or uncertain condition of roots.

As to any system of pruning proving an antidote to any of these evils, it is absurd to expect it; the pruning of in-doors Vines is, in general, as much a matter of convenience as of principle. Pruning, of course, forces the amount of sap into a less compass, and thereby causes a kind of extra impetus for awhile, hence the common phrase amongst gardeners—"Cut it back to make wood." I have seen Vines, in my time, so happily situated, as to the root, that had they been clipped with the shears they would have carried good crops; and I have also seen Vines strong enough in growth, yet in which all the appliances of the most experienced failed in inducing a fruitful habit.

There can be no question that Vines love as much ground warmth as they can honestly get; all experience goes to prove this; and if so, their well being depends on other considerations than those which concern manurial applications and quality of soil. I observed, some time since, in these pages, that I once knew some of the finest Hamburgs imaginable, and heavy crops, produced from a tree planted out at the back of a tan-pit in which Pines were placed occasionally; the body of soil being simply old tan alone, about four feet in depth. Nothing could be finer than those Grapes. But how would a house of this kind answer out-of-doors, and how long would it endure? Why, the first thoroughly rainy period would irrevocably ruin it. Now, if this old tan, or humus, proved successful in-doors, the question arises, why should it fail out-doors, granting that I am correct in that inference? The reason lies here: humus of any kind, but especially old tan, will hold an excess of water for a long period, parting with it sluggishly; need I add, that such alone prevents the acquisition of ground heat from an atmosphere many degrees warmer, say ten in the months of May and June. The tan in-doors, however, never received any rain, and water was sparingly administered by an experienced hand; it was, consequently, always in a mellow condition, and perfectly pervious to the heated surrounding atmosphere. One of the best Grape growers I know, has told me that

his borders were scarcely fifteen inches in depth, and one-half of this was above the ordinary ground level; the borders made, if I rightly remember, almost entirely of turfy, light loam, the parings and edgings of drives and roads in an old park. Now, with such facts before us, what sensible man can think of making a border or bed a yard or more in depth? Or who can defend the introduction of so much manurial matters as is too often practised? All kinds of organic manures are liable to attain very similar conditions, through age, to the old tan before quoted; that is to say, to become, in a very few years, a kind of greasy humus, retentive of moisture.

I should much like to hear a correct and impartial history of some of those borders in which dead horses, dogs, and other carrion, played so prominent a part half-a-score years since. If I mistake not, some of these charnel-house borders must by this time be in an awkward plight. I much fear a similar fate may have overtaken some Vine borders, made a dozen years since, specially with a view to produce those bouncing exhibition Grapes which make so much noise. I do not suppose that all good gardeners, who desire to exhibit Grapes, glut their borders with an over-mount of manure, thus perilling permanency for the sake of off-hand fame. I make the observation, because I have known some do this; indeed, one poor fellow, now no more in this world, confessed to me, that what between very grassy turf and strong rank manures, his newly-made border smoked like a cucumber-bed for weeks!

After such considerations, it is surely not too much to infer, that the aptitude of soils to receive the benefits arising from the sun's influence is of paramount consideration as concerns the Vine; and that deep soils, over-adhesive loams, and those organic matters which are of a highly manurial character, and which become, with age, moisture-holders, are averse to the ready reception of such influence. And what may we fairly expect from Vines whose roots are for weeks, during May and June, in a temperature of about 50° to 55°, whilst their leaves and branches are enjoying an average of 60° to 70°? I speak here of the roots in deep borders. We all know that the soil out-of-doors, in April, May, and June, is, in its averages by nature, nearly half-a-dozen degrees below the average atmospheric heat; but when we come to a dozen or more, the discrepancy becomes rather striking, and we begin, very naturally, to wonder how far Nature's laws may be tampered with.

Vine buds, in March or April, or, if you will, earlier, show a disposition, when the bunches first show, to cause those cherry-looking embryos to threaten to be forced to become tendrils. All this may be very interesting to the man of science, as a morphological curiosity; even as "I heard our good Doctor palaver one day," to use the language of one of Dibdin's celebrated songs, "Poor Jack." The Doctor's palaver, excuse me, consisted in calling the cutting off of a limb from an unfortunate fellow-creature—"a most interesting case." But these poor Vines—why show this tendency? And then, as before observed, there is the pimple, or blotch; in other words, those raised and puckered surfaces on Vine leaves which look like some disease, and, verily, it may be; but how came we by it? Our Doctor talks in a most learned way about predisposition. Here we have a case of, at least, indisposition. Well, then there is what they call long-jointed Vines. I am not aware that the latter ailment ever occurs with weakly Vines, unless they be injudiciously subjected to very high night temperature. Now, in regard of the roots of Vines, which, I need scarcely urge, are very susceptible of injury, as they may well be, seeing they are not indigenous to our climate;—there may be, at least, two distinct evils which hurt them occasionally, viz., general torpidity of root-action, fitfulness in rooting; and these

two features, as concerns the root, may have certain collateral bearings, of which I feel bound to say something. General torpidity of the root can only arise from low temperature, or from a bad texture of soil. To suppose a soil too barren for the free rooting of the Vine, would be to stretch our case unnecessarily; and to imagine some pernicious qualities existent, is to go wider still of our point.

Temperature, as dependent on texture, I have before alluded to. As to barrenness of soil—those who are conversant with the history of British Vine culture in doors during the last score or two years, will scarcely attribute the many failures we have heard of to poverty of soil. But who can, for a moment, imagine that Vine roots will luxuriate in the same degree and with the same amount of freedom three feet from the earth's surface as they will within a foot? and if they will not, pray what can be the character and mode of action of those low-level roots? Why, they are weeks later in reciprocating with the foliage; and at the very period when their assistance is needed they are sound asleep, or about to awaken. The results of such a condition of things I have frequently noticed in other trees than the Vine: Apples, Pears, and such like, where spade-culture has been carried on over their roots. At the very period, say July, when they should have performed the chief amount of their agencies, they are in the humour to throw a vast amount of fluids into the system of the tree, which has by this time lost the vigour which produces early and strong growths. R. ERRINGTON.

WHAT IS A VARIETY?—ORIGIN OF PELARGONIUMS.—SOWING LINUM GRANDIFLO- RUM.—PROPAGATING BEDDING PLANTS.

WE shall soon see if the little bonnets are to have the third year's run of the fashion. But what would you say of dear granny's bonnet, which has lasted and outlived all the fashions since 1791? Why, that it has the odds against all the flower-beds which stood it out without a change since the year 1831, when the first three whole beds of one kind of plants were planted, for the first time, both in England and Scotland, although each country had its one bed of "bedding plants" seven years before that time, which brings us back to 1824, when the most expert cross-breeders of the day were in the height of their ambition, engaged in crossing the wild Geraniums of the Cape; but there were breeders in this line many years before then, and one of their crosses, of whose parents no traces are left to us, is still the best bedding Geranium of that section called Noseguys. The *Pink Nosegay*, our present purplish-pink Nosegay Geranium, is the *Pelargonium Fothergillii* of Sweet's Geraniaceæ, and of all the best arrangements of them since that day to this.

Sweet, who reared immense quantities of seedlings of them, must have been led astray, after a vain fancy of his own, about legitimacy of species. Every plant which comes true from seeds was universally believed at that time to be a true species, when he named *Fothergillii*, and that led him into another error in assigning a Cape of Good Hope origin to this plant, which is the best of our earliest crosses in the family. It was raised about the same time as *Hippeastrum* (Amaryllis) *Johnsonii* (1810), by a person of the name of Green, but that is all I know of him. The plant was sold for some years under the name of *Green's Seedling*, and, very probably, some of the men in "Lee's Nursery," or at Pine Apple Place, may remember it as *Green's Seedling*; but Sweet says, it was called *The Nosegay*, for some years before he published a figure of it. He hums and ha's a good deal about it; but although he does not

quite say it, I am certain he proved to his own mind that it was as true a species as it could possibly be, because it never varies from seeds; but many cross seedlings of the present day come as true from seeds as any wild species whatever. Linnæus described the Cape Scarlet *Inquinans*, and the Horse-shoe *Zonale*, of our day, or *Zona-notalis*, as he calls it, in the "Hortus Upsalensis," and there has not been another true wild species of the "Scarlet breed" published since. I write thus pointedly, in answer to a smart letter I received against my views of what will and what will not cross in the family, and I say, distinctly, that all our bedders in the section came from two originals, the *Horse-shoe* and the *Cape Scarlet*. These are not my opinions, but facts which can be proved. I did not "set up" opinions against "the authorities of the compilers of the Encyclopædia of Plants," or against any other compilers; and as to "mere varieties coming true from seeds," the thing is as notorious to those who study the subject as is our defective knowledge of what constitutes a species or a variety. The cross-breeder must be the highest authority for all such decisions; he can prove facts as they stand in nature; and "compilers," and smart letter writers, must acquiesce in his proofs, or subvert them by other proofs equally strong, not by arguments or reasoning. All the varieties of the first Horse-shoe Geranium, which I named the other day, are not "transitory," and do not rest on the opinion, or on the authorities of Sweet, Donn, or Lindley. I have seen them, as I said, and they were well known before those shining lights were in their "new moon." Philip Miller knew them well, and described them in the first edition of his "Gardener's Dictionary" under his "twenty-third sort," the *Horse-shoe*, which he says, "is one of the oldest and the most common sort in the English gardens;" and he distinctly says, that "there are three or four varieties of this, one with fine variegated leaves (the Shot-silk one), one with crimson, and another with pink-coloured flowers, which have been accidentally raised from seeds "of the common Horse-shoe." The crimson one is lost, but we have it in a variegated form, which will no doubt restore the long-lost one. The pink one, and this very crimson of Miller's, would produce the first Nosegay, and that they were the actual parents of our pink Nosegay of the present day, I have not the smallest doubt; indeed, I was well aware of it four years ago, and I then began with Miller's time, as it were, and now I am on to the age of the fanciful arrangement of them by "the compilers of the Encyclopædia of Plants," with the seedlings.

I have a perfectly crimson *Nosegay*, or *Fothergillii*, from crossing Miller's varieties. How am I, therefore, to submit to the doctrine, that species only will come true from seed, or that it was necessary to go to the Cape for a new form, or section, of Geraniums, which I make myself from common varieties at home? and hereby I challenge a proof to the contrary.

But enough for one day; let us go into other useful plants for the beds. I shall have a bed of Jackson's *Lady Peel* Petunia, which, I said, I longed to see; for in Mr. Walton's greenhouse, last summer, it was the finest pot Petunia I ever saw. I shall, probably, have another bed of the new white Petunia *Imperialis*, which is advertised in our pages by the Messrs. Henderson. It has been pronounced "a charming thing" by the best Judge on bedding plants in England, to my own knowledge. It is as cheap as a whistle, and every body in the three kingdoms ought to plant it this season. It is plentiful every where. I went and booked my plants of it at Mr. Jackson's Nursery, being the nearest, as soon as I learned that 1000 plants of it would be used at Shrubland Park.

I saw *Lobelia speciosa* at Mr. Jackson's, for the first time, which is of the dwarf blue section, but very

different from all the rest in its fine leaves, habit, and, I believe, the flowers are dark blue, but I did not see them.

The following is a successful mode of having a fine bed of *Oxalis Bowii* in bloom in the autumn:—Take bulbs now that have been at rest all the spring, plant three of them in 48-pots, or five in 32-pots, plunge the pots then in the reserve ground till next August, when many of the summer plants are going out of bloom, then plunge pots and all in the flower-bed, where this *Oxalis* will bloom till late in October. An oyster-shell is the best for drainage, as it prevents the escape of the new bulbs by the bottom of the pot. Half the world lost the beauty of this most beautiful plant by not resting it from November till May; and two-thirds of the gardens lost it altogether by planting the bulbs in deep, free beds and borders, where, in three years, it will bury itself so deep as not to have sufficient strength to open a single flower. The way by which some bulbs bury themselves deeper and deeper every year is this:—After flowering, the old bulbs die, and new ones take their places; the *Gladiolus* is an instance which is best known, but before dying, the old bulbs put out feelers, or soft fangy roots, and at the end of these feelers the new bulbs are formed. In a wild state the ground is so hard that the feelers cannot get lower than a certain depth, and that kind of bulb, being thus accustomed for ages to flower from a certain depth, will always blossom better from that particular depth; but when we transplant such bulbs into deep, free-working borders, there is hardly a limit to the progress of the feelers, and they go down ever so far beyond what is natural to the bulb to flower from, and so, after three or four years we lose them altogether, and so we lost *Oxalis Bowii*. The exact depth at which this bulb flowers best is seven inches below the surface, and a little less for second-sized bulbs; therefore keep this in mind, and always after this keep your bulbs of *Oxalis Bowii* plunged in pots, and quite dry, from late in the autumn till about this time in May; but under a different treatment the bulbs have been growing from last October, and are now just going to rest, after flowering for the last six weeks; but such bulbs will not do to bed out, or, rather, plunge out, for autumn-blooming, as they will only begin to make fresh roots next September, and continue to grow on through the winter like the Hyacinth, and bloom in the spring, then rest in summer; but they submit to a winter rest and autumn-blooming without the least hurt to the bulbs.

The next subject is *Linum grandiflorum*. A packet of seeds of this beautiful little annual is sent to my experimental garden by the first seed-house in London, through a gentleman of Surbiton. I said I would not undertake to prove seeds, but I shall try this packet to see if I can find out the cause of why it fails. The label is "*Linum true Scarlet*." Now, I protest against this trick of the trade, for there is not a true scarlet *Linum* on the face of the earth, as far as any of us are aware of to the present hour. The plant was exhibited in bloom at the June Show of the Horticultural Society last summer, and I told of it in my report. Seven years before then it flowered in Paris, and they said then it was crimson, and if so, that plant is lost and a new *Linum grandiflorum* has been reintroduced in its place. It is nearly of the same colour as the old *Nuttallia grandiflora*, with a darker eye. *Atrosanguinea* comes very near the colour. I shall sow one-half of the seeds in a pot, which I shall plunge in the open border under a west wall, with a pane of glass over it, and if the seeds come up, I shall plunge the pot an inch under the surface, without disturbing the seedlings, and I shall put three squares of glass round the pot, one on each side and one in front; the wall will form the back of the square enclosure; the panes will be merely stuck in

the soil, and six inches high, an eight-inch square of glass is best, and two inches of it will press in the earth, then there will be a spare pane to put over the three when it rains very heavily; and if the plants are late in seeding, I can lift the pot and bring it in-doors under glass; that is the very best mode which appears to me for managing this charming little plant. The other half of the seeds I shall put under various experiments, and if any of them succeed, or suggest to me a better way than the above, I shall not fail to record it; at all events, let us hear no more of *Scarlet Linums* till one is discovered somewhere; and as to *Linum grandiflorum*, let no one sow it in a hotbed, after reading this, till I have an opportunity of writing about my way from experience. There are a dozen of pretty little annuals which languish under a hotbed treatment, and who knows but this may make thirteen to the dozen.

In the hurry of planting-out time one is apt to forget that the common blue *Nemophila insignis*, if sown from the 20th of May to the end of the month, flowers from the beginning of July till the middle of August, and that with another sowing, a month later, this pretty and favourite annual will be in bloom till the frost comes. Also, that this is the right time to propagate *Heliotropes* to stand over the winter, to cut from next spring. This is likewise the best course to pursue with the *Anagallis* and the *American Grounset*.

Plants of the different bedding *Petunias* should be now reserved in pots, with plenty of pot-room, to take cuttings from about the beginning of July for keeping over the winter; and now is the last chance for the season for laying in a good stock of *Chrysanthemums* and *Pompones*, particularly the latter.

D. BEATON.

THE CRYSTAL PALACE.—THE PEACE CELEBRATION.—MAY 9TH.

WE do not usually admit to our pages anything which does not relate to gardening, or its allied pursuits; but the Crystal Palace is now so identified with horticulture, that we make no apology for noticing the first of a series of noble *fêtes* which are this season to amuse and delight many thousands of our fellow countrymen, and we make no doubt of a numerous portion of our own readers also.

What doubts, misgivings, and idle rumours there have been about the Crystal Palace! Would it pay? Will they be able to keep up the excitement? and many other such questions have been asked, to which nobody, who ever answered, felt assured in his own mind that he was giving a right solution of them. These questions are now for ever set at rest.

The inauguration of the season, on Friday week, was one of the most successful hits the Company have ever made. Long before eleven o'clock the roads leading to Sydenham Hill were thronged with all sorts of respectable conveyances, and the railway brought down its heavy freights. The day, fortunately, though lowering, was fine, and though not quite up to the mark of "a Queen's day," was such as to enable 12,000 visitors to go and return without any uneasiness or discomfort on their part, as to the consequences that might befall their toilets.

On entering the Palace at eleven o'clock, we made our way without any difficulty to the position allotted us, and through the courtesy of the gentlemen who were in attendance, we were enabled to witness the imposing scene which followed to the greatest advantage.

On making a survey from our position, we found a *dais* about twelve feet square, and five feet high from the ground, at the south end of the great transept. This

was approached by a flight of steps on either of two sides, covered with scarlet cloth, and set apart for the accommodation of Her Majesty, the Royal Family, and suite. On the *dais* were elegantly gilded chairs, two of which were covered with white silk, and richly embroidered with the finest needlework; one being for the Queen, and the other for the Prince, who, however, did not make use of it. Behind the *dais* an orchestra was erected, and in front of it a semi-circular mass of most beautiful flowers and flowering shrubs added beauty and freshness to the scene. Then the whole area of that great transept, and extending on either side of it, with the galleries, reaching far away overhead, there was one solid mass of human beings, which one could compare to nothing else than to a monster parterre. Oh! if Mr. Beaton had been there. Such flowers! such grouping, and such colours! What new ideas we should have had of "mixed beds," "shot-silk beds," and "ribbon gardening!"

During the time the company was assembling, the band of the Scotch Fusilier Guards "discoursed sweet music," till was heard in the distance far away in the south transept, faint and indistinct strains of the "British Grenadiers," as they approached nearer and nearer, becoming more distinct, the Scotch Fusilier and Crystal Palace bands burst out with "See the Conquering Hero comes," and presently appeared in sight, under the transept, a noble array of the Crimean heroes of the Artillery, headed by their excellent band. Then such cheering, waving of hats and handkerchiefs, as the Crystal Palace never knew before. By this time many of the Crimean officers had arrived and taken up their positions around the *dais*, where they lounged and sauntered about till Her Majesty's arrival.

The scene now became exciting. There were the very men who any day could make the world tremble; there they were, many of them shattered in health and limb, but still strong in the consciousness of their own power and their noble deeds. By-and-by the same faint strains of the "British Grenadiers" were again heard, and as they came nearer and nearer, the three bands already under the transept made the welkin resound with the "Conquering Hero comes," and then came the Guards—the men of the Alma and Inkerman. Again the cheering was vociferous.

Punctual, as usual, Her Majesty entered the building at half-past three, and, ascending the *dais*, preceded by Sir Joseph Paxton, after bowing to the vast assembly, took her seat on the chair provided for her. On Her Majesty's left were the Princess Royal, the Prince of Wales, and Prince Alfred; and on her right the Princess Alice. Behind Her Majesty were the Prince Albert, the Duke of Cambridge, and the Duchess of Sutherland; and among the company present were the Marquis of Bredalbane, Lord Panmure, the Duke of Wellington, Lord Grenville, Admiral Lyons, and many others of the Ministers and nobility. After the bands had played the National Anthem, and Madame Rudersdorff, Mr. and Mrs. Lockey, and Mr. Thomas, sang a quartett from the oratorio of "Eli," the unveiling of Baron Marochetti's "Scutari Monument" took place, and disclosed an obelisk of large proportions and beautiful design, placed on a pedestal, at each of the four corners of which was a colossal figure of an angel with sad and downcast countenance, standing as if robed in its own folded wings. A burst of enthusiasm proceeded from the whole assembly, and Her Majesty and Court appeared to take a lively interest in the proceedings. This obelisk is a monument to the soldiers and sailors who fell in defence of Turkey. After a hymn had been sung, the unveiling of "The Peace Trophy" was proceeded with. It represented a colossal figure of Peace, in silver, with a golden robe, holding in her hand a real olive branch, and standing on a sort of bride-cake-looking pedestal.

This, too, was of course well received; but was subjected to much rigid criticism. After a duet was sung, "O, Lovely Peace!" a column of five hundred Crimean heroes marched across the transept and up the centre avenue, filing off round the *dais*, while the three bands played "See the Conquering Hero comes." This formed the climax of the whole ceremony. The large assembly rose in a mass, and such rapturous cheering and waving of hats and handkerchiefs we never remember to have seen. As the men marched out of sight, and the band still keeping up the same stirring air, Her Majesty bowed to the assembly, and retired to the north transept, there to witness the fountains play. The assembled company left their seats which they had occupied with becoming patience for five hours, and, forming themselves into small parties, promenaded in the building, or betook them to the galleries or gardens.

Such a scene as we that day witnessed bids fair to ensure to the Crystal Palace Company an assurance of a large measure of public patronage; and the attractions which are announced as being still in store to be produced throughout the season, cannot fail to establish the Crystal Palace as the most agreeable resort for all that is elevating and instructive.

FLORISTS' FLOWERS.

THE CINERARIA.

THESE charming ornaments of the greenhouse have nearly reached perfection. Though not so showy on the exhibition stage as the Pelargonium, yet, at home, they cannot be too much cultivated. They last in bloom so long, and their colours are so pleasing, and their culture is so easy, that it is no wonder they are so universally admired and cultivated. The two greatest obstacles to successful growth are their being subject to the attacks of the Green Fly, which, if allowed to attain any great power, renders the plants sickly, dirty, and, of course, not fit for the stage. The other obstacle arises from the fact, that the Cineraria will not bear the least frost without injury. The remedy for their disorders is easy. Insects, the moment they appear, must be destroyed by tobacco-smoke; but it must be applied cautiously; if too strong, it will cause the leaves to turn brown. Two gentle smokings on successive nights will be quite safe, and quite as effectual as one severe one. Then, to keep the frost from injuring the plants, a continual and constant watch must be kept to keep the enemy out of the pit or house in which the plants are housed during the cold season. Then, again, I would warn the cultivator against the too common practice of thinking his good kinds of Cineraria require but little care after the blooming season is over. I see them frequently, in gardens, placed out-of-doors in some back, out-of-the-way place, with weeds growing in the pots, and the pots themselves green over with moss, and the soil covered with worm-casts, showing the worst management possible. This is very wrong, and very ungrateful. Such plants, so managed, cannot send up strong, healthy suckers, or side-shoots; indeed, they frequently perish entirely.

With these few preparatory cultural remarks, I will now proceed to give our readers a selected list of twelve of the best new varieties, and twelve of the best older varieties.

TWELVE SELECTED NEW CINERARIAS.

1. *Admiral Lyons* (Hopwood).—A large, full-sized flower, white ground, edged with rich purplish-violet; good form and substance.

2. *Duchess of Wellington* (Turner).—Medium size;

white ground, with rosy-lilac edges; disc or centre nearly white; a fine-formed flower, of excellent habit.

3. *Empress* (Salter).—A large flower, of good habit and form; colour white, with a delicate rosy-lilac edge, and great depth and width of petal; a good exhibition flower.

4. *Exquisite* (Dobson).—Ground-colour pure white, edged clearly and distinctly with rosy-crimson; disc very dark and conspicuous; good form, and a free bloomer; habit very compact and dwarf; one of the best for exhibition.

5. *Fascination* (E. G. Henderson).—Medium size; colour clear, deep blue, with a narrow, distinct circle of white round the disc; petals stout and stiff, well set, and of a superior form; a really good variety.

6. *Magnum Bonum* (Turner).—As its name imports, this is a large and good variety; colour bright rosy-purple, with a clear white ring round a dark disc; a good variety for exhibition.

7. *Mrs. Gerard Leigh*.—A clear white flower, with a rosy-purple edging; the disc is a clear blue; a distinct, large variety, very conspicuous, either in the greenhouse or on the exhibition table.

8. *Mrs. Rogers*.—Medium size; white ground, with a broad maroon edge; dark disc; form rather cupped; a most distinct and beautiful variety.

9. *Optima* (Bell).—Medium size, with large trusses; colour a white ground, with a broad, deep blue edge, and blue disc; fine form, and good habit; an excellent show flower.

10. *Purple Standard* (Turner).—Medium size; colour a deep blue, with a narrow white ring round a dark disc; very fine variety for any purpose.

11. *Rose of England*.—Raised by Mr. Boussie, gardener to the Right Hon. E. Labouchere, of Stoke Park. A large flower, of good habit; colour white ground, with a rose-coloured margin, and a dark disc in the centre; form excellent.

12. *Sir Charles Napier* (Turner).—Very dense blue in colour; with great depth and width of petal; fine form and habit; a good self-coloured show flower.

TWELVE OLDER SELECT VARIETIES.

1. *Admiral Dundas* (E. G. Henderson).—White ground, with bluish-purple margin; good form and habit.

2. *Alba Magna* (Smith).—A remarkable variety, with a nearly black disc, and blush-white petals; a telling variety for exhibition.

3. *Conspicua* (Wheeler).—A large-flowering variety, of a pure white ground-colour, tipped with rosy-purple; habit dwarf and compact, producing a large head of bloom; a very fine variety.

4. *Empress Eugenie* (E. G. Henderson).—Clear white ground, with a violet-crimson edging and purple disc; good form of petal, and a free bloomer; a good variety.

5. *Lady Mary Labouchere* (Turner).—A variety with the dwarfiest, densest habit; colour pure white ground, very delicately tipped with blue; deep blue disc, and a very free bloomer; a favourite variety.

6. *Lady Paxton* (Turner).—Ground-colour pure white, with a broad, dense margin of purple; disc dark purple; good habit, form, and substance.

7. *Lord Stamford* (E. G. Henderson).—White ground, finely margined with light porcelain-blue, good, well-rounded petals; a superior flower.

8. *Mrs. Foster* (Turner).—A dwarf-growing variety, and flowers of the finest form; colour a white ground, with a glossy lilac margin, and white disc; a distinct variety.

9. *Novelty* (E. G. Henderson).—Ground a rich, dark violet, with light-coloured disc; a large, novel, self-coloured flower, rich, and very showy.

10. *Optimum* (Hopwood).—A flower with a broad

crimson belt on a white ground; dark disc; and good form and habit.

11. *Prince of Prussia*.—Fine form, and good habit; colour a beautiful glossy sky-blue, with a narrow rim of white round a dark disc; a very handsome and striking variety.

12. *Prince Arthur* (E. G. Henderson).—A self-coloured flower of the brightest dense crimson colour; good form and habit; a very showy variety. T. APPELEY.

(To be continued.)

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO. VI.

THE FLOWER-GARDEN FENCE.

FENCES admit of great variety in form and detail of construction. Of these, however, it is not my present object to speak. But the principles upon which particular kinds of fences are applicable to certain situations, and *vice versa*, form a subject of no mean importance, and it is this that I propose briefly to discuss.

The so-called sunk fence, or *ha-ha*, demands the principal share of attention, and I believe I shall be unfortunate enough to differ from many persons whose opinions are entitled to great respect, when I venture to condemn it altogether as a means of separation between the flower-garden and the grounds immediately contiguous to it. Yet from such situations I would banish it altogether as inappropriate in the highest degree. I will endeavour to explain the grounds for my objection. In the first place, there is an avowed separation between the dressed grounds and the park, or paddock, as the case may be. It is fully understood that cattle are not admitted to the former, and that flower borders and dressed shrubberies are wholly out of place in the latter. Why, then, attempt to give the appearance of that which cannot by any possibility be recognized in reality? It may possibly be urged, in opposition to this, that a great portion of real excellence in garden design arises from ingenious deceptions, and that it is perfectly allowable in the artist to put a "generous deceit" upon the spectators. This I admit is true to a certain extent, but it can only be allowed when the results of such deceptions are calculated to gratify the mind by exciting pleasing emotions. But in the employment of an invisible fence to separate grounds occupied by cattle from others devoted to flowers, the opposite of this must always be the result. Suppose, for instance, that we are strolling in a garden for the first time, or, at least, that we are not familiar with its boundaries; and that while admiring the beauties of the place, and inhaling the fragrance of the flowers, we suddenly behold, some fifty yards before us, a group of cattle quietly grazing, as it were, among the shrubberies. Our first impulse would be to eject them from what we should naturally imagine forbidden ground—in fact, the flower garden. But presently we meet the gardener, who allays our fears by quietly informing us that a *ha-ha* effectually restrains the cattle within their own domain. This is, perhaps, an extreme view of the case, but it is at least a truthful one. But at all times, and even to those most familiar with such a garden, there is, when cattle in the adjoining grounds are seen close upon the dressed grounds without any visible intervening fence, an idea of insecurity, as well as of incongruity, which tends very much to disturb those pleasing emotions which the contemplation of a garden should always inspire, and which forms so large an item in the pleasure which it affords.

During the last century, when the so-called natural style of gardening was the prevailing fashion, the *ha-ha* was the ordinary garden fence; very many examples of which yet remain, and it is still adopted in newly-formed grounds; for so fascinated are some persons with the idea of an invisible boundary to their gardens, that it is rarely possible for the landscape-gardener to overrule its adoption when once the employment of it has been conceived by his employers. Yet nothing but a partiality for an antiquated practice could insist on such a fence in the situation we are now consider-

ing, for it most assuredly has not one principle to recommend it either on the score of appropriateness or utility.

A *ha-ha* is simply a ditch with a more polite name; and as an appendage to a style of gardening in which the avowed object was to banish as much as possible the appearance of art, nothing could appropriately supply its place; but as a boundary to a garden properly so called, every part of which should bear strong evidence of the continued interference of art, it is incongruous in the highest degree.

The flower-garden fence ought to be a visible one, and it should not only be sufficiently strong in reality to afford protection from cattle; but it should appear as such—it should seem to be adequate for the office it assumes; for, if from extreme lightness of construction (a point, by-the-by, too much aimed at), it seems not sufficiently strong for the purpose intended, it will, in some degree, give rise to apprehensions similar to those which are felt by a person under the impression that no fence whatever exists.

I know a large mansion in which the windows of the principal rooms have lately been glazed with plate glass, in squares of such large dimensions, that all the ordinary sash-bars have been removed as unnecessary. The consequence of this is, that when you are in the rooms the window-frames appear to be without any glass in them; and it would be pardonable in any one, unacquainted with the truth, who should attempt to walk through without opening the windows, from the belief that no impediment exists. This arrangement I have heard highly extolled. But it appears to me to be, like the invisible fence, in the worst possible taste, because it affects a deception which is not only not necessary, but which is calculated to produce much inconvenience. We know that some boundary to the garden must exist, and that our living rooms must be protected from the vicissitudes of the weather; upon what principle then, can we, in either case, banish the appearance, while we admit our need of the reality? As well might we make the walls of our dwellings transparent, to impress the idea that we live in the open air. I introduce this somewhat irrelevant illustration because it exemplifies the principles I am endeavouring to advance.

But, nevertheless, there are situations in which the *ha-ha* and sunk fence are not only useful, but highly appropriate. Where it is advisable to separate a large lawn grazed by cattle into several parts for convenience, and where, perhaps, visible fences would be inappropriate or unsightly, the *ha-ha* can be employed with good effect, because the object sought is deception, and the means employed effectually accomplishes it. The appearance of an unbroken space is maintained, while the convenience of separate enclosures exist in reality. Or, in other words, a useful deception is realized, and the realization is a source of pleasure.

Of late years, iron has been much and very usefully employed as a material for ornamental fencing. The "invisible" iron-fence admits of very extensive employment, and as the name is, fortunately, a pleasant fiction, such a fence becomes, in many cases, doubly appropriate, combining, as it does, lightness and elegance with efficiency.

But whatever material is employed as a fence, simplicity of design ought to be a prominent feature in it. All fantastic patterns should be avoided, for such are rarely attempted without the result degenerating into a monstrosity—a cockneyism.

The simple lines are always the most appropriate. Such "fancy" patterns as are frequently met with in the vicinity of towns are heresies to be vigorously avoided. There are, of course, situations where fences of peculiar and fantastic designs are appropriate, as in connection with buildings, or gardens of particular or fancy styles. But such exceptions do not affect the positions assumed; for the observations contained in these papers, it will be borne in mind, treat mainly, of principles, and those of the broadest character.

But although I would not, as a principle, employ the *ha-ha* as a fence to the flower-garden, it may sometimes be both usefully and appropriately adopted in conjunction with a balustrade, or other fence. Situations will sometimes occur, where a fence of ordinary height would obstruct a view from the principal windows of a residence, or from some particular position in the grounds. Then a low fence may be rendered effective by the addition of a modified *ha-ha*, having a perpendicular side next the garden faced with masonry, and ex-

tended upwards as a balustrade, if the situation will allow of such, or, if not, by the addition of some other form of fence, of sufficient height that would be appropriate, fixed in a plinth above the ground-line. But even this, as it were, half-deception, should only be resorted to in cases of necessity; but a full and effective-looking boundary fence should be employed whenever one is required at all.

When a purely architectural fence is employed, it should be in connection with, or, at least, seem to be in connection with, some building. Such fences are not appropriate in detached, or remote parts of the grounds (unless of a peculiar character) without in some way, real or apparent, having such connection. This principle is, however, very far from being always recognized; and the effect of its violation is to give an incongruous appearance, where an opposite character might otherwise be secured.

An appropriate fence to a garden adds very much to the general keeping of the whole. Its accomplishment should, therefore, be a recognised principle in garden architecture. By no means is it necessary that the fence should be wholly invisible. Its utility being once acknowledged, why attempt to hide it?—G. LOVELL, *Landscape Gardener, Bagshot.*

SAYES COURT.

THIS residence, near Deptford, in Kent, was the residence of Sir Richard Browne, during the reign of Queen Elizabeth, and it descended to his son and grandson. The royal household in those days was supplied with corn and cattle from different counties, and the cattle was pastured until required upon lands situated at Tottenham and Deptford. The lands at Deptford were under the care of Sir Richard Browne, grandson of the Sir Richard first named. The second Sir Richard had distinguished himself in many fights against Charles I., but being appointed one of the Commissioners to receive him from the Scotch, he was so moved by compassion and by a foreseeing of the consequences that would arise from the fall of the monarchy, that he returned to his allegiance, and remained inflexibly an adherent to the Stuart dynasty. He was a great favourite of Charles II., whose resident he was at Paris before the restoration, and was soon after created a Baron. In 1660 he commanded the militia of London and was its Lord Mayor. Evelyn married his only daughter, and received, as part of her portion, Sayes Court. It was no poetical fiction when Cowley complimented Evelyn on his taste for gardening, for his books, and for his happy choice of a wife, who had, as the poet says—

"The fairest garden in her looks.
And in her mind the choicest books."

She delighted in the same pursuits that afforded her husband his chief pleasures, she helped to cultivate and adorn his gardens, and she designed the drawing which is the frontispiece of his translation of "Lucretius."

Chief among those gardens was the one at Sayes Court, and its beginning is thus worded by Evelyn, under the date of January 17th, 1653. "I began to set out the wall garden at Sayes Court, which was before a rude orchard, and all the rest one entire field of 100 acres, without any hedge, except the hither holly-hedge joyning to the bank of the mount. This was the beginning of all the succeeding gardens, walks, groves, enclosures, and plantations there." On the 19th of February of the same year, we have this entry in Evelyn's Diary, an entry in unison with the opinions of those days, "I planted the orchard at Sayes Court, new moone, wind west."

In 1696 Evelyn had let Sayes Court to Capt. Benbow, so celebrated as an admiral, and Benbow underlet it, in the February of 1698, to Peter, the Czar of Russia, during his visit to England for the purpose of studying ship-building at Deptford dockyard. He was its tenant but three months, and Evelyn thus states the result. "June 9, 1698. I went to Deptford to see how miserably the Czar had left my house, after three months making it his court. I got Sir Christopher Wren, the king's surveyor, and Mr. London, his gardener, to go and estimate the repairs, for which they allowed £150 in their report to the Lords of the Treasury."

The following relative documents have just been published by W. H. Hart, Esq., in "Notes and Queries":—

In the May of 1698, we find Benbow "petitioning the Lords of the Treasury that compensation be made him for the damage the Czar had done to his house, garden, and furniture.

"The proceedings on this petition, which I have made the subject of this communication, afford interesting details of the dilapidations caused by the Czar's tenancy of Sayes Court, and I believe now meet the public eye for the first time.

"The petition is as follows:—

"To the Right Honourable the Lords Commissioners of his Majesty's Treasury.

"The humble Petition of John Benbow,

"Sheweth,—

"That your Petitioner did some time since, take the House of John Evelyn, Esquire, call'd Sayes Court at Deptford, and is bound by Agreement to keep the same (together with the Gardens), &c. in Good, and Sufficient Order and Repair; And to leave them in the same at the Expiration of his Terme; And so it is (May it pleas your Honours). That his Czarish Majestic coming to your Petitioner about Three Months agoe, did request the use of his House, during the time of his Stay in England, as also the Furniture in it, as it stood. Hee freely consented * thereto, and immediately removed his Family out of it, and gave him possession; Supposing it might be a pleasure to his good Master the King, and that he would have used his house, Goods, and Gardens, otherwise than he finds he hath; which are in so bad a condition that he can scarcely describe to your Honours: besides much of the Furniture broke, lost, and destroy'd.

"Your Petitioner therefore humbly prays that your Honours will please to order a Survey upon the House, &c.: to see what damages he hath sustained and that Reparation be made him, that so he may not be a Sufferer, for his Kindness:

"And he shall pray, &c."

"On the sixth of May this petition was sent to Sir Christopher Wren, who was directed to survey the house, gardens, and goods, and to report how much the damage done by the Czar and his retinue amounted to. Within a very few days Wren, with the assistance of Mr. Sewell, of the moving wardrobe, and Mr. London, the king's gardener, made his survey, and estimated the total damages at £350 9s. 6d., the full particulars of which appear from the following documents:—

"May 9th, 1698.

"Account of Damages done to the building and Fences by the Czar of Moscow and his Retinue at Sayes Court, in Deptford:—

	£	s.	d.
For 150 yards of Painting at.....	7	10	0
For 244 yards of Whiting in the House.....	2	0	8
For 300 Squares in the Windows.....	0	15	0
For 20 Quarries.....	0	1	8
For 3 Brass Locks.....	2	8	0
For 9 more that's dammag'd.....	2	5	0
For keys wanting to all the said Locks.....	1	0	0
For 90 foot of Dutch Tyles to repaire in Chimneys.....	1	10	0
For 100 foot of Flemish Tyle paving to repaire.....	1	5	0
For 90 foot of Purbeck paving to repaire in ye Kitchen.....	1	10	0
For mending the Stoves there.....	0	10	0
For plaining the Dressers.....	0	10	0
For repairing an oven dammag'd.....	0	10	0
All the floores dammag'd by Grease and Inck.....	2	0	0
For 2 new Deale Dores.....	1	4	0
For a new Floore to a Bogg House.....	0	10	0
For repairing 300 foot of flint and Pebble paving.....	1	0	0
For 240 foot running of Posts and Pales of Firr.....	60	0	0
For 170 foot running of Posts and Raile of Oake.....	17	0	0
For 100 foot running of border board in ye Garden.....	1	13	8
For new pollishing 4 marble foot paces and a Marble Table.....	1	4	0
For 3 wheelbarrows broke and Lost†.....	1	0	0

£107 7 0

"Measured by William Dickinson Clarke.

"An Inventory of Admirall Benbow's Goods that is Lost, Broake, and damage done to them while the Czar of Muscovy Lodged there, is valued as followeth.

	£	s.	d.
The Bedchamber hung with blew paragon and a blew paragon Bed lined with a Buff Coloured silke all much stained and spoyled.....	4	10	00
A Japan cornish Broake.....	00	10	00
An indian silke quilted Counterpane Blauketts and Bedding much stained and dirted.....	02	10	00
A dressing table lined with silke broake and spoyled.....	01	00	00
A wall nuttree table and stands broake.....	00	15	00
A brass harth, a pair of tongs, fend iron, fier shovell broake and some parte lost.....	01	00	00
A feild Bedstead broake to peices, with a crimson paragon furniture Lined with a striped persian silke, much tore and spoyled.....	02	00	00

"In the clossett.

Four pieces of thread damaske hangings much soyled..... 00 10 0

* "Sic in orig."

† "We read that one of the Czar's favourite amusements at Sayes Court consisted in being wheeled through Evelyn's famous holly hedge. Perhaps the barrows mentioned in this item were the identical vehicles in which His Majesty rode."

“The greute Roome.		
One pair of Large bras hand irons broake	00	05 00
“The next Roome.		
Hung with tapistry to be cleaned	01	00 00
“Next Roome.		
A stained callico Bed lined with white callico, the curtaines tore in peices, and a large indian quilt tore in sevrall places.....	03	10 00
Fourteen hollandes matted bottome chares all broake and soyled	02	10 00
Twelve back chares covered with drugett much dirtyed	01	00 00
“Next Roome.		
A sad colloured Camblett Bed much tore and soyled.....	02	00 00
An ordnary stained calico quilt tore and burned in sevrall places.....	00	10 00
A black wainscot table and stands broake and soyled	00	10 00
A pair of brass hand irons, fier shovell and tongues broake .	00	07 06
“The Next Roome.		
Two beds, one of Drugett, the other Green Searge, much tore and soyled	02	10 00
An old chest of Drawers, fier shovell, tongues, and hand irons broake and soyled	00	10 00
“Next roome.		
A blew striped callamanco Bed lined with a striped india stuff, Embroydered, verey much dirtyed and soyled, and the cornishes broake	03	00 00
Twelve back chares covered with blew paragon, much dirted Three old hollandes matted chares broke	01	10 00
A wallnuttree chest of Drawers and a Wainscott table much soyled and broke	00	15 00
Six white thread damaske window Curtaines tore and soyled	01	10 00
A warneing pann broake and hurned to peices	00	05 00
“Below staires.		
A Japan table, two chares, and a couch, all broake and soyled	01	10 00
Seaven Caine chaires broke and lost	01	10 00
Severall other Cane chaires damaged	01	00 00
Elleaven green plush cushions stained and one lost.....	01	00 00
One large pair of brass hand irons, one pair of tonges, fier shovell, one grate broake and soyled	00	15 00
Two inlayed tables damnyfied	00	10 00
One large Turkey Carpett dirtyed	00	05 00
Five Leather Chares Lost.....	01	00 00
Three ordinary wickered bottom chares and foure green Searge chares broke and lost.....	00	17 06
Two Fether beds and two Bolsters Lost	08	00 00
Three paire of new doune pillowes lost	03	00 00
Eight Fether beds, Eight bolsters, twelve paire of blanketts verey much dirtyed and soyled	03	15 00
One iron stove grate broke to peices.....	00	15 00
Three paire of three breadths fine new holland sheetes	07	10 00
Three armed and five hack wooden carved chares broake to peices.....	10	00 00
Twenty fine pictures verey much tore and the Frames all broke	10	00 00
Severall Fine Draughts and other Designs Relateing to the Sea Lost, vallowed By the Admirall att	50	00 00
In all.....	£127	02 06
St. Genua Table broake and soyled, valued att	006	00 00
	£133	02 06

“Jos. SEWELL.”

“May 9th, 1698.

“Some observations made upon the gardens and plantations which be-
long to the honourable John Evelyn, Esquire, att his house of Sayes
Court, in Deptford, in the County of Kent.

“During the time the Zar of Muscovie inhabited the said house, se-
veral disorders have been committed in the gardens and plantations,
which are observed to be under two heads: one is what can be repaired
again, and the other what cannot be repaired.

“1. All the grass worke is out of order, and broke into holes by their
leaping and shewing tricks upon it.

“2. The bowling green is in the same condition.

“3. All that ground which used to be cultivated for eatable plants is
all overgrown with weeds and is not manured nor cultivated, hy reason
the Zar would not suffer any men to worke when the season offered.

“4. The wall fruitc and stander fruitc trees are unpruned and un-
nailed.

“5. The hedges nor wilderness are not cutt as they ought to be.

“6. The gravell walks are all broke into holes and out of order.

“These observations were made by George London, his Majesties
Master Gardener, and he certifies that to putt the gardens and planta-
tions in as good repair as they were in before his Zarish Majestie resided
there will require the summe of fifty five pounds, as is Justified by mc.

“GEORGE LONDON.

“Great dammages are done to the trees and plants, which cannot be
repaired, as the breaking the branches of the wall fruit trees, spoiling two
or three of the finest true phillereas, breaking sevrall holleys and other
fine plants.”

“Upon these proceedings Sir Christopher Wren made
tho following report to the Treasury :

“May it please your Lordships,

“In pursuance of your Lordships Reference of May 6th, 1698, upon
the petition of John Benbow, Esquire, that I should survey and
Estimate the dammages done to his House, Gardens, and Goods, by
His Czarish Majestic and his Retinue at Deptford; I accordingly re-
paired thither, and vallow'd the repaires of the House and Fences by
particulars upon view; and desired the assistance of Mr. Sewell of the
moving Wardrobe to vallow the Goods, and of Mr. London to vallow the
Gardens, and plantations, to which estimates heer annexed, they have
respectively set their hands, and I believe their vallowations are just.

		£	s.	d.
The Dammage of the House is vallow'd at	107	07	00	
Of the Gardens	55	00	00	
Totall	162	07	00	

“Which summe of £162 07s. 00d. I suppose may be
pay'd to Mr. Evelyn, the petitioners Terme being neer
expired.

The Dammage of the Goods is	133	02	06
Crav'd 14 weeks Rent, which I vallow at.....	25	00	00

Totall to be pay'd to ye Petitioner	158	02	06
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“There is also a House belonging to one Russell, a poor
man, for the Guards appointed to be there, who have al-
most intirely ruined the house; he will submit to a re-
compence of

	30	00	00
--	----	----	----

Summe Totall.....	350	09	06
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“All which is humbly submitted.

“CHR. WREN,
May 11th,
1698.”

“By a Treasury Warrant, dated June 21, 1698, the
mouney was ordered to be paid to the various persons, in re-
compence for their damages, according to the terms of
Wren's report.”

SEASONABLE NOTES ON BEES.

THE cold springs which have prevailed of late years have
prevented an early increase of Bees; so that instead of
looking with great interest in May, we have had to wait
for them till June. This greatly diminishes the produce
from bees. The less room allowed to stocks, on the old plan,
the better, for the great increase of warmth will forward the
growth of the *larvæ*, and induce the queens to deposit their
eggs in the proper cells. Thus the places of the old queens
which leave the hives in the first swarms are regularly filled
up. But strong stocks, on the depriving system, require the
opposite treatment to ensure success, by preventing swarming.
The hives should be defended from the hot sun, and extra
room afforded, which is generally to be done at the side or
the top. It is good to fix a bit of guide comb in each of the
bell-glasses, or boxes, in order to entice the bees to enter.
This should be placed, if possible, the same way as the
combs in the hives, which is generally north and south, by
which arrangement free access is allowed between them.
The best cells for this purpose are clean ones, which were
made to hold honey, placed the right way upwards.

It may not be generally known, that one division of comb
may contain cells of four different kinds, which is the num-
ber made by bees. Those for honey are of unequal depth,
a little raised to contain the honey, and placed at the top
and outside combs. The broad cells are about the same
size, but all of equal depth, to enable the *larvæ* to close
them with their cocoons, before they change to the *pupæ*
state. They also contain the pollen, and are placed in the
warmest parts of the hive. Male, or drone cells, are placed
in a similar way, but larger and fewer in number, and often
filled with honey after the drones are destroyed. Queens
cells are round, and formed after the combs are finished,
varying from three to eight, and often fixed to the edge of a
comb, and opening downwards. They are of tougher material,
and not unlike that of the combs of wild bees. These cells,
from their size, afford room for the complete development of
the queen bees, which are bred in the swarming season only,
unless some accident deprives the hive of a queen. Drones
are also bred at the same period; but working bees, in strong
stocks, at all times, except in very severe weather. As they
increase, swarming takes place, on which we shall observe in
our next article.—J. WIGHTON.

MIGNONETTE BLOOMING THREE TIMES.

LAST year I had two window boxes of Mignonette; as soon
as the plants had perfected their bloom, I cut them down to
two pair of leaves, they made a fresh start, and bloomed
again in October. I again treated them as before, and re-
moved the boxes into a conservatory. They showed a ten-
dency to damp off during the winter, but recovered on hav-
ing a good coating of dry, dusty soil sprinkled about their
roots. They have now been in bloom about a month, and
the flowers are infinitely superior to those produced by many
tree Mignonettes.—W. X. W.

SAXE-GOTHEA CONSPICUA.

THIS remarkable plant, to which His Royal Highness Prince Albert has been pleased to permit one of his titles to be given, and which will probably rank among the most highly valued of our hardy evergreen trees, is a native of the mountains of Patagonia, where it was found by Mr. William Lobb, forming a beautiful tree thirty feet high. In the nursery of Messrs. Veitch, of Exeter, it has lived in the open air for four years without shelter, and has all the appearance of being well adapted to the climate of England. The country in which it grows is, indeed, more cold and stormy than any part of Great Britain, as is shown by the following account of it, given by Mr. Lobb in one of his letters to Messrs. Veitch:—

"During my absence I visited a great part of Chiloe, most of the islands in the Archipelago, and the coast of Patagonia for about 140 miles. I went up the Corcohadó, Caylin, Alman, Comau, Reloncavi, and other places on the coast, frequently making excursions from the level of the sea to the line of perpetual snow. These bays generally run to the base of the central ridge of the Andes, and the

rivers take their rise much further back in the interior. The whole country, from the Andes to the sea, is formed of a succession of ridges of mountains gradually rising from the sea to the central ridge. The whole is thickly wooded from the base to the snow line. Ascending the Andes of Coman, I observed from the water to a considerable elevation the forest is composed of a variety of trees, and a sort of cane so thickly matted together that it formed almost an impenetrable jungle. Further up, amongst the melting snows, vegetation becomes so much stunted in growth, that the trees, seen below 100 feet high and eight feet in diameter, only attain the height of six inches.

"On reaching the summit no vegetation exists—nothing but scattered barren rocks which appear to rise amongst the snow, which is thirty feet in depth, and frozen so hard that on walking over it the foot makes but a slight impression.

"To the east, as far as the eye can command, it appears perfectly level. To the south, one sees the central ridge of the Andes stretching along for an immense distance, and covered with perpetual snow. To the west, the whole of the islands, from Guaytecas to the extent of the Archipelago, is evenly and distinctly to be seen.

"A little below this elevation the scenery is also singular and grand. Rocky precipices stand like perpendicular walls from 200 feet to 300 feet in height, over which roll the waters from the melting snows, which appear to the eye like lines of silver. Sometimes these waters rush down with such force, that rocks of many tons in weight are precipitated from their lofty stations to the depth of 2000 feet. In the forest below everything appears calm and tranquil; scarcely the sound of an animal is heard; sometimes a few butterflies and beetles meet the eye, but not a house or human being is seen. On the sandy tracts near the rivers, the lion or puma is frequently to be met with; but this animal is perfectly harmless if not attacked."

It is from this wild and uninhabited country that many of the fine plants raised by Messrs. Veitch were obtained, and among them the *Saxe-Gothæa*, *Podocarpus nubigena*, *Fitz-Roya patagonica*, and *Libocedrus tetragona*. Of these he writes thus:—

"The two last (*Fitz-Roya* and *Libocedrus*) I never saw below the snow line. The former inhabits the rocky precipices, and the latter the swampy places between the mountains. The first grows to an enormous size, particularly about the winter snow line, where I have seen trees upwards of 100 feet high, and more than eight feet in diameter. It may be traced from this elevation to the perpetual snows, where it is not more than four inches in height. With these grow the Yews (*Saxe-Gothæa* and *Podocarpus nubigena*), which are beautiful evergreen trees, and, as well as the others, afford excellent timber."

SAXE-GOTHEA may be described as a genus with the male flowers of a *Podocarp*, the females of a *Dammar*, the fruit of a *Juniper*, the seed of a *Dacrydium*, and the habit of a *Yew*. Its fleshy fruit, composed of consolidated scales, enclosing nut-like seed, and forming what is technically called a *Galbulus*, places it near *Juniperus*, from which it more especially differs in its anthers not being peltate, nor its fruit composed of a single whorl of perfect scales, and in its ovule having two integuments instead of one. In the last respect it approaches *Podocarpus*, and especially *Dacrydium*; but the exterior integument of the seed is a ragged abortive membrane, enveloping the base only of the seed, instead of a well-defined cup. In a memorandum in my possession, by Sir William Hooker, I find this distinguished botanist comparing *Saxe-Gothæa* to a *Podocarp* with the flowers in a cone—a



A.—Branch of *Saxe-Gothæa conspicua*.

view which he was probably led to take by the condition of the ovule, and which may be regarded as the most philosophical mode of understanding the nature of this singular genus; to which *Nageia* may be said to be a slight approach, and which is not distinguishable by habit from a *Podocarp*.

In its systematic relations *Saxe-Gothæa* possesses great interest, forming as it does a direct transition from the one-flowered *Taxads* to the true imbricated *Conifers*, without, however, breaking down the boundary between those orders, as I understand them, but rather confirming the propriety of limiting the *Coniferous* order to those genera which really bear cones instead of single naked seeds. In the language of some naturalists, *Saxe-Gothæa* would be called an osculant genus between *Taxads* and *Conifers*.

The LEAVES of this plant have altogether the size and general appearance of the English Yew, *Taxus baccata*; but they are glaucous underneath, except upon the midrib and two narrow stripes within the edges, which are pale green. The MALE FLOWERS consist of spikes appearing at the ends of the branches, in a raceme more or less elongated. These spikes (Fig. B. 1) grow from within a few concave acute scales, which form a kind of involucre at the base. Each male is a solitary membranous anther, with a lanceolate, acuminate, reflexed appendage, and a pair of parallel cells opening longitudinally. The FEMALE FLOWERS form a small roundish, pedunculated, terminal, scaly imbricated cone (Fig. B. 3). The scales are fleshy, firm, lanceolate, and contracted at their base, where they unite in a solid centre. All appear to be fertile, and to bear in a niche in the middle, where the contraction is, a single inverted ovule (Fig. B. 4). The ovule is globular, with two integuments beyond the nucleus; the outer integument is loose and thin, and wraps round the ovule in such a way that its two edges cannot meet on the under-side of the ovule;* the second integument is firm and fleshy; the nucleus is flask-shaped, and protrudes a fungous circular expansion through the foramen. The FRUIT (Fig. B. 5) is formed, by the consolidation of the free scales of the cone, into a solid fleshy mass of a depressed form and very irregular surface, owing to many of the scales being abortive, and crushed by those whose seeds are able to swell; while the ends of the whole retain their original form somewhat, are free, rather spiny, and constitute so many tough, sharp tubercles. The SEED (Fig. B. 6) is a pale brown, shining, ovate, brittle nut, with two very slight elevated lines, and a large irregular hilum; at the base it is invested with a short, thin, ragged membrane, which is the outer integument in its final condition. The nucleus lies half free in the interior, the fungous apex having shrivelled up and disappeared.

Explanation of the Cuts.—A, a branch with male and female flowers, natural size; B, various details of the fructification, more or less magnified; 1, a spike of male flowers; 2, a male or anther apart; 3, a twig and young cone; 4, a scale seen from the inside with the inverted ovule, showing the fungous foramen protruding beyond the primine (outer integument); 5, a ripe fruit; 6, a seed showing the two slight elevations upon the surface, and the remains of the ragged primine at the base.—*Dr. Lindley in Hort. Soc. Journal.*

* Since this was written Sir W. Hooker has placed in my hands a sketch of the anatomy of the female flowers of *Saxe-Gothæa*, by Mr. B. Clarke, who describes the ovule thus:—"Its ovule has the same structure as that of *Gnetum*, as described by Mr. Griffith, viz.: it has three integuments; the internal protrudes, and forms a sort of stigma, not so obvious as in *Gnetum*; the external has constantly a fissure on its posterior, or rather inferior surface, which however does not close as in *Gnetum* when the ovule advances in growth, nor yet become succulent. Mr. Griffith describes the fissure in the external integument of *Gnetum* as constantly posterior; and if the ovules of the strobilus were erect, they would agree with *Gnetum* in this particular."



B.—Fructification of *Saxe-Gothæa*.

CHILDREN'S GARDENS.

NO. IV.

VERY likely, some reader of my past notes has contemptuously cried, "Pshaw! Look at my son's garden;—he has had it two years. I supplied him with good tools, plants and seeds, and, so far from interfering with the liberty of action, 'E.' makes such a fuss about, I have not said a word to him about his garden; yet it is full of weeds. I should just like 'E.' to account for this?"

Very easily accounted for, indignant reader, in your own words. "You never said a word to him about his garden." That is the reason of your son's indifference. Try what a little kindly encouragement will do. If children find that no one notices their labours, all delight in them passes away as soon as the novelty wears off; but if they see that their parents take an interest in their success, an enduring motive for exertion is supplied, and the bond of filial love is strengthened by a fresh tie. We are ourselves by no means free from a similar feeling. Mature of age, as many of us may be, I suspect that there are but few who do not find an incentive in the encomiums of a wife, a sister, or a friend. How many of us, again, pride ourselves in being successful exhibitors!

I presume that no one will impute blame to us for being actuated by such motives; I only plead for their extension to

my young friends. I beg also to observe that the privilege of contributing to youthful happiness, by genial sympathy, is by no means confined to parents: as visitors, not a little good is in our power. The gift of a few seeds, with a small amount of patient listening and good-natured criticism, will impart a fresh zest to the employment, even though our visits be but few. Let me cite cases. (Little girl speaking). "Why do you always ask to see my garden? Ma's other visitors never do. Haven't you one of your own?"

E.—"Yes; and you shall come and see it some day: but what a pretty Larkspur you have; let us tie it up." The promised invitation took place, and on my next visit to mamma, the little lady stopped me, as I was departing, with a clump of the identical Larkspur in her hand (it was *D. grandiflorum*), saying,—"You haven't any of my Larkspur in your garden; please have some of it."

That plant was not the least-cherished of my collection.

Another instance.—"I'm so glad you've come! I have so many things to show you."

E.—"Very well; go and fetch your hat."

Mamma.—"George has been very busy ever since he heard you were coming; but I hope he will not be troublesome."

E.—"I hope so, too, for I should regret to find my heart indifferent to the delights of youth."

One more anecdote, by way of caution to visitors, and I have done.

A mother lay ill in her chamber. Every day her son (ten years old) brought his offering of flowers, culled from his own garden, to adorn her table. Few and common though they often were, the parent appreciated the act; and who that knows the strength of maternal love, can tell how much it contributed to her recovery? At length, her health improved so far that she announced her hope of joining the family circle on her birth-day, then a fortnight distant. Now, of all her son's flowers, a Moss-rose was the most highly prized. By much self-denial, he had saved enough to purchase it two years before. For the first time, it had several promising buds; these, his choicest gift, he destined to be a birthday present. The day approached, the mother was convalescent,—some buds had opened, and were carefully protected from sun and shower, while the rest were sure to be fit to cut. But, alas! on his return from school, on the evening before the natal day, he beheld his bush shorn of its treasures; a visitor from town, having received a general permission to gather a nosegay, had unwittingly dealt the most cruel stroke it was in her power to inflict on the heart of an affectionate son. Who can paint the anguish of his disappointment!—E.

(To be continued.)

QUERIES AND ANSWERS.

GARDENING.

CUTTING ASPARAGUS.

"I have five Asparagus beds, about thirty feet long by four feet wide, with alleys two feet wide. At the end of March my gardener dug them, leaving the beds about four inches above the surface of the ground; but instead of leaving them in that state, about a week afterwards, he got an idea into his head that the beds did not look well in the square state, so he raked the mould away, arching the beds but very slightly in the middle, the sides being left nearly on a level with the rest of the ground on the plot. I have only just found it out, and to my cost, I observe that the roots of the Asparagus are certainly not more than six or seven inches from the surface of the ground, and when the Asparagus is cut the knife injures the roots, and the length of the stalks very much curtailed.—H. S."

[Two or three inches depth of soil above the crowns of the Asparagus plants is quite enough. Never cut your Asparagus shoots until they are six inches above ground, and cut them only half an inch below the surface. Nearly the whole shoot is then eatable, and the flavour beyond all comparison superior to that which has scarcely seen daylight. There will be

no injury either to the roots or rising shoots if you cut only just below the soil's surface. All good gardeners adopt this plan now. The days of long uneatable "drumstick Asparagns" are gone by." When you say your gardener "dug" the beds, we presume you mean slightly "forked" them. To dig an Asparagns bed is to ruin it.]

LAYING OUT A SMALL SPACE OF GROUND.

"I have a piece of ground lying on the north side of my garden, which is fifteen yards wide and sixty yards long, which I wish to convert into a sort of wilderness, with fruit trees scattered here and there. Now, can you give me any help as to the laying out of this bit of ground. The ground slopes from east to west, and my design is to make hollows and elevations in it, to have a rockery in one part, &c. But I want your help. I give you a kind of plan which I have thought of, that you may tell me if anything of this kind would do. I propose having a border of spruce firs, mixed with evergreens, nine feet wide, all the way round, then to have winding walks in the centre, with clumps of evergreens, here and there, for the walks to rise and fall, with dwarf fruit trees planted about in the borders. Pray give me your advice.—CLERICUS."

[To attempt to lay out a piece of ground, which one never saw, by a written description, is about as hopeless a task as ever fell to the lot of man to perform. Yours is a nice piece of ground, which is of the easiest shape and inclination for a man, on the spot, to make a pretty thing of in the way you propose. Your first plan of it, showing a rockwork in the middle at A, at one-third distance from the end, violates a fundamental principle, it compels you to *walk down* to a rockwork, and that should never be the case; for, if ever you are permitted to *look down* on rockwork from a walk on *higher ground*, the designer would have been better employed dreaming on his pillow. When a dead level piece of ground is to be broken up to vary the surface, it does not matter which side is made the highest, unless the situation of some object or objects near at hand would make it desirable to have the right side higher than the left; but in a sloping piece of ground, like yours, the higher side should be made still higher with the excavated soil, and the lowest side should be made still lower. When rockwork is to be introduced, it should be on the *higher parts* of the highest side, and no more than *two sides* of rockwork should ever be seen—to be able to walk all round an artificial rockwork, although it were as high as the monument in London, and a full mile round the base, is not, artistically, one whit better than walking round a flower-pot. After these principles are understood, the actual form into which such a piece of ground is thrown up is a mere matter of taste, and one man's taste is just as good as another's, providing he does not insist on it as a model for others. Your first plan is much to our own taste, with the aforesaid precautions, but your second plan is a very ordinary conception indeed. We publish your letter in full, in order to be able to say that none but quacks ever undertake to dispose of such subjects as these *in the dark*.]

BLOOMING CANTUA DEPENDENS.

"I have had for the last two years a *Cantua dependens*, a healthy plant, that grows very much, but I cannot get it to blossom. Can you tell me the method of making it bloom well?—P. H., Cambridge."

[There is no dependence on the flowering of this most beautiful plant, by any means hitherto adopted for its growth. Our own first recommendation seems yet to be the best, grow it liberally one whole season, from *March cuttings*, and starve it, as it were, from the end of that autumn till it blooms. The way to starve it is this: let it remain in the July shift-pot all the autumn, and next winter, from the end of October, give it no more water than will keep the ball from turning into dust. The coldest frame culture is best for it all the winter; that is, from 30° to 35° degrees of heat all the time, were that possible. If it does not blossom with the new growth next season, keep it still in the same pot, and towards the middle of May prune every side-shoot on it to the last pair of eyes, and the little twigs

which will grow from this cutting will bloom next year; if not, we know not how to advise.]

TREATMENT OF SEEDLING ROSES.

"The first day of this year I placed in a large pot about a table-spoonful of Perpetual Rose seeds, which I sent to a friend's hothouse; in February about thirty vegetated, and when the seedlings were half-an-inch high, I had the pot removed to an adjoining house, *without* artificial heat. They have progressed *very* favourably, are four inches high, and well leaved. Some gardeners tell me to turn them out-of-doors; others differ. I have thought of breaking the pot (by that means, the roots will be less liable to injury in separating them), and planting them out separately, the latter part of this month, into small pots.—R. W."

[The question turns upon the fact, whether you are a good gardener or not; and from your saying that "to break the pot the roots will be less liable to injury separating them," we are quite sure your friends who advised you to turn them out-of-doors spoke in earnest, and in consideration of your practical knowledge; but the end of May will be time enough to turn them out—we do not mean to turn them out of house and home, but out of the pot, into good garden mould in a good warm place. Turn the ball out entire, and let the Roses fight it out for room till next October or March. If so long as March, the rest of the seeds will vegetate by that time, and the Roses from the later seeds will be worth four times the value of those upstarts which come up without care and trouble. The best things are never got without painstaking.]

WHAT ORCHARD-HOUSES ARE.

How much of the history of fruit-culture in this country is just that of a battle with difficulties. In addition to the numerous enemies furnished by earth and air, we have to contend with a climate proverbially capricious, which in a single night or day will blast the prospects of the year. What walliugs do we hear in spring time over blighted blossoms! The gardening periodicals groan under the burthen of disastrous tales; and the vision of Peaches, and other good things, inspired by the opening beauties of the season, have melted away before the power of the destroyer. And thus we have laboured in vain; and all this planting and pruning, nailing and tying, with its expense and its bother, its blue noses and benumbed fingers, have been done and endured for nothing! Were ever hapless people in such a plight as gardeners!

Surely, we must look upon the man as a benefactor who invented garden walls; they afford some shelter, at least, and help to box out Boreas. Then brick is found to be superior to stone as conferring additional benefits, and the lucky idea is seized of heating a wall by fire. What a bold navigator he must have been who adventured so far into the *magnum mare* of discovery as to imagine, purpose, and execute, too, a house to grow fruit in! A house for trees! A strange-looking idea this, once as unlikely to some minds as a house for whales; but a fact very common, and well appreciated, and multiform now. We have garden walls, hot and cold; pits and peach-houses, and vineries, and flues, and hot-water, and hot air, all devices of the gardening craft for battling with our difficulties and beating them; and in virtue of these devices we have some sorts of fruit better than we should otherwise obtain them, and some which we should not be able to obtain in any other way.

Each of all these appliances has a distinct value, but not the same value; and we do not quarrel with a wall because it is not a vinery. Is not an Orchard-house a useful invention? Is it not one of those contrivances which comes to our aid in this great battle with gardening difficulties? No matter where the idea comes from, is it not to be made welcome? Are we to quarrel with an Orchard-house because it is not what is called a Peach-house? or because we fancy, or believe, the latter kind of structure so much superior? Are we to turn the humble Orchard-house out of court almost without a hearing? Do not let us be in a hurry to do this. The Orchard-house is one of our friends, after all. Like other

gardening appliances, it has its value, and will occupy, by-and-by, more room and receive more favour than it has yet got.

The state of the question is not *Orchard-house* versus *Peach-house*, or any other house, at present; but *Orchard-house* versus *cold weather*. Nor is it to be estimated by the mere marketable value of its produce. It appears certain enough, that in such a structure, Peaches, Nectarines, Apricots, Plums, &c., may be produced of good, eatable qualities, and that with proper management we may almost always calculate on success; at all events, we have certain chances of success; and we may welcome even chances amidst the uncertainties of our climate. To use a common phrase, *anybody* may have an Orchard-house, but only some people can afford to have what is commonly called a Peach-house. Gardeners on a small scale may not have a hot wall; but in an Orchard-house, of most unpretending appearance, they may taste what a hot wall does not always afford. A small space on which the sun shines, and a small expense, a corner in a court, old windows and old boards, and we can have an Orchard-house. The idea helps to put the peasant on a level with the peer, and the inmate of the town with the dweller in the country. Is not this a triumph for gardening, and something for mankind—a fresh and enlarged distribution of the bounties of Providence amongst men? Would it not be a new pleasure for the townsman, on returning from the shop or the office, or before he sets out for his daily business, to have a peep at *his* tree, or trees, as the case may be; to gaze on the opening beauties of the Peach blossom, and watch the expanding promise of the year, and gather fruit of *his own* cultivation? Would any fruit bought in Covent Garden be to him like his fruit? Or would a duke be so happy over his dessert? Such things are not fancies; they are capable of being realised. There are thousands of places in mighty London, and plenty about all our towns, where the Orchard-house could exist and thrive, which furnish no other means of fruit-culture. There are courts lumbered with old boxes and barrels; back greens not always on the shaded side of dwellings; spaces dignified with the name of gardens, of the dimensions of a moderate-sized carpet, which are capable of giving a home to an Orchard-house. And why should not a Cockney possess such a house if he can find a corner to put it in? Why should this be thought more absurd than the possession of a blackbird or a canary?

Amidst the confinement of town-life, so little natural to man, there is a constant hankering after nature. It is up in the attic, and amongst the chimney-tops. What is that we see outside of yon miserable window? It is a Wall-flower in an old blacking-bottle. And I see not why the human heart should not find solace in an Orchard-house.

This gardener's friend, then, will be content with very humble accommodation; it will take any place where the sun will shine on it, and be satisfied with a plain dress. A labourer's garden, or a back court in a town, it will not despise; and a nobleman's garden it will not disgrace. Indeed, it has been brought forward under such a homely aspect, that the Peach-house proper, who is a court gentleman, fumes as if a beggarly corse were borne between the wind and his nobility. The Peach-house says that the Orchard-house is the progeny of a "ealves'-house."* A very pretty quarrel this between the pot and the tea-kettle! What was the great ancestor of all the fruit-houses in existence? Was it an old window stuck over a bit of a tree against a wall, or two or three such things; or a lean-to, with bull's-eye panes for cheapness? Whether one or other, or anything like either (and it must have been), the Peach-house is descended from it; and it is the parent of a numerous and highly respectable family, which numbers amongst its members the conservatory at Chatsworth, the Crystal Palace, and the People's Palace at Sydenham.

We need not disown our ancestors, nor despise our teachers. An Orchard-house is first a Beech hedge; it has only three sides, and no roof. It is a cold affair this, and a glass roof is added. Still too cold, however, and four walls are given to it, which, instead of being Beech hedges, are wooden deals elinkered. Well, this does better; and then comes a span-roof, which does better still, for it lets in light from two sides instead of one. These are steps, and to

* See page 182 of Vol. XV. of COTTAGE GARDENER.

fast-going people may appear slow; but knowledge usually increases by very small increments. Now, should a calve's-house have helped forward the idea, no gardener should object to such aid; for it is commonly said that a donkey taught us gardeners the art of pruning fruit-trees. And if a calve's house, or a calf, or a donkey, can afford us any good idea, let us be thankful for our instruction, and give due reverence to our teachers.

It is not necessary that the Orchard-house should be confined to those forms which have been referred to above. Glass sides would be nearly as cheap as brick, and glass ends would be a further advantage: light would thus be admitted on all sides; and with ventilating boards *all round*, and a similar contrivance at the ridge, air would be freely admitted from every quarter, as required, and the trees be furnished with this most essential supply. But then, this is a glass-house! To be sure it is. It is a glass-house in any form you take it, but it is the least expensive of all such structures; that is one of its merits, and it affords the means of cultivating fruits under it in a better climate than outside, and offers facilities for a greater variety. However little may be thought of the 250 dozen of Peaches obtained last autumn in Mr. Rivers' Orchard-house of sixty-six feet in length, there is many a garden in this island which could not, last season, have furnished from well-kept walls the tithe of that number. There is one advantage connected with this mode of fruit-culture, not mentioned by Mr. Rivers, which ought not to be lost sight of. We all know that fruit grown on standard trees, properly ripened, is finer in quality than the same sort produced on a wall; they are smaller, it is true, but better flavoured. Quality in fruit is its first virtue; and size, though often put first, is but a secondary affair. Gardeners should not estimate fruit as the judges do bullocks and hogs at the Smithfield Christmas Show. Peaches, &c., in pots, in an Orchard-house, are standard trees, and give them light and air all round, the fruits ripened there ought to be of the highest flavour.

At page 183 of Vol. XV. of THE COTTAGE GARDENER, two plans are offered, claiming to possess superior merit to the Orchard-house. These plans cannot properly be brought into comparison with such a modest structure, not only on the ground of expense, but because their cultivation is entirely different. The Orchard-house and these plans embrace different ideas. But let me notice one objection, which a first look at these plans suggests: there are two rows of trees shown, which are to grow *under the shade* of those trained immediately under the glass. Trees may grow in such a site, and produce some fruit; but stone (or any other) fruit in the shade can never possess the qualities of what is grown properly exposed to light. Indeed, this objection is so far applicable to ordinary Peach-houses, and especially those of the lean-to form, as the light only falls upon one side of the fruit. The same may be said of Peaches on walls: the best part of the fruit is the side exposed to the sun; and where the situation is not very favourable, it is only the sunny side of the Peach which is ripened.

Mr. Rivers says that the Orchard-house is spring frost-proof. This will depend on circumstances. If it be properly *aired*, it will be in better condition to resist frost than if airing be neglected. Air is *vital air* to a plant, as well as to a man. The functions of fruit-trees cannot healthfully be discharged without it; but if these functions are active as in spring, and the plants are denied plenty of *fresh air*, their developments will be feeble and tender, and more easily destroyed than if they had been in the open air. So now let me answer the question, "What did 'B.' gain by covering his trees with glass?" A great disappointment, in the first place; and next, a little knowledge. My trees which were covered, were, beyond all dispute, made tender by the process, and I lost fruit instead of gaining it. On referring to my statement at page 90, it will be observed that I say there, "I think I could manage better now;" and this is my explanation. The sashes which I put before my trees were *fixed* in an upright position. As the trees might be said to be in a recess, made of two boards perpendicular, and one at the top horizontal, and as I had stuffed every crevice between the boards and the wall with moss, to keep out frost, my trees were, as far as it was possible, shut out from air. This was uncommonly bad gardening, but it was the fact; and hence the failure, as I believe. The trees,

deprived of air, and made as close as if they had been packed in a box, were forced on by the bright sun at railway pace, and, their functions being performed in such unhealthy conditions, their developments of the fruit first, and the young shoots afterwards, were incapable of resisting a degree of cold which was borne without injury by what was fully exposed. I was ignorant of the meaning and value of proper aeration to fruit-trees. Had I given plenty of air by day, and the advantage of the protection of the glass by night, I might have had some better recompence for my labour. Still, we gain instruction from failure. We are not, from such a case, to come to the conclusion that glass is worse than useless: it must afford a certain measure of protection, which will be enough, in general, to save the season's fruit, if the trees are properly cultivated. Some gardeners attain great results by humble appliances, through sagacity and skill, and others, with every possible requisite in their hands, never know success.

The Orchard-house presents many enviable aspects. How cozy the trees must be there, when cutting winds, hail showers, drifting sleet, and snow, too, are committing wholesale destruction outside! Of these enemies we have all sorry reminiscences; and Mr. Rivers' trees, and fruit, and house, bring before me a contrast. In the early part of May last, my Plums and Pears were in full blossom. One night, at nine o'clock, the wind chopped round to the north-east; huge clouds came drifting up from the North Sea; and the thermometer had got down to the freezing point. By the help of a man I endeavoured to meet the exigencies of the occasion. We got out tulip-covers, old and new mats and rugs, every spare sash, even boards and straw, and wrought hard to beat winter. For winter it was in earnest; and the beds would have been stripped of blankets to cover the trees, but the night was not inviting for such an experiment. By the time we had done, and were able to return to the house, there were two inches of snow lying on the ground, and hard frozen. And what did we get by all this? Well pinched, but no fruit. Mr. Rivers has had more fruit in his Orchard-house this season than I have obtained from one hundred yards of cold wall in eight years, and more, if I may presume to guess, than I shall see in other eight years to come.—B.

TO CORRESPONDENTS.

BRES (*Bristonian*).—Write to Messrs. Neighbour. You will see their address in our advertising columns.

NAME OF PLANT (*J. Dyer*).—It is *Saxifraga granulata plena*, or Double-knob-rooted, or White Saxifrage. This double variety was found growing wild by Mr. Joseph Blind, gardener at Barnes, about eighty years ago. He transplanted it into his garden, gave specimens to his friends, and it has since become common enough. It is easily propagated by its offsets; plant them after the leaves have decayed in early August in some shady place, and in good unmanured loam. During winter they may be fully exposed to the sun; but at other times they require shade.

RAISING STRAWBERRIES FROM SEED (*An Experimenter*).—Ripe seed may be procured in two ways:—First, during the first year the plants have produced fruit, collect a sufficient quantity of well-shaped and well-ripened berries, and the best time to do this is towards the end of the full crop, that we may be sure we have got the proper sort, and that we have not gathered the seeds either from degenerated plants, or from other varieties which may have intruded into the bed. Put these berries upon a plate, and set them in a dry place out of the reach of mice. They will then decompose and dry up. No danger is to be apprehended from the berries becoming putrid or mouldy; for the decomposition of the pulp tends only to perfect the seeds. The Strawberries thus dried are to be kept till the following spring, when, by rubbing them between the fingers, the seed may be easily separated from the remains of the pulp, which may be thrown away as useless, and then the seeds will remain unmixed and almost perfectly clean. Or, secondly, take the Strawberries, selected as in the former case, and squeeze them in a hair sieve or sieve of a pretty close texture; pour water upon them, shaking and separating them at the same time with the hand; press them against the sieve, and in a short time the diluted pulp will pass through and leave the seed. These may be either sown immediately, or kept in a dry place until the spring. Sowing should take place immediately the seed is obtained from the berry, and the seedlings will then bear fruit the next year. Select a light, rich soil with an easterly aspect, so as to be shaded from the mid-day sun; sow very thinly, in drills nine inches apart, and bury the seed not more than a quarter-of-an-inch below the surface. Give gentle waterings daily during dry weather, and keep the seedlings well cleared from weeds. In August, thin the plants to six inches apart, and those thus removed may be pricked out at similar distances in a like sheltered soil. In the early spring, give them a slight top-dressing of leaf-mould. Instead of sowing in the open border, some gardeners prefer employing pots or seed-pans, which we consider necessary only where small quantities of hybridized

seed are to be sown; in that case the pans should be placed in a warm aspect, and on ground where the worms cannot penetrate; if placed in a frame, it will be an advantage, or a hand-glass, when only a single pan is sown, placed over it, to protect it from violent rains, as well as to forward the germination. A thin mixture of common whitening-and-water, and a thin coat of this laid on the inside of the hand-glass or frame-light, with a soft brush, will be an effectual shade from the mid-day sun, and at the same time will admit sufficient light for the seeds to germinate and grow till they are strong enough to bear exposure to the sun and air.

POTATOES GOING BLACK (J. W.).—Potato tubers always become more or less black when boiled after sprouting. It is probable that it arises in some way from the *Solanin*, a violent poison found in the Potato after it has vegetated, but not before. This explains why Potatoes, after they have sprouted, disagree with stomachs which digest easily unsprouted Potatoes.

FENCE (A Two Years' Subscriber).—If you have flints build a flint-wall eight feet high; but without knowing the nature of your soil, or whether you wish for a live or a dead fence, how can we advise you? You might as well tell a shoemaker to send your wife a pair of shoes, without stating anything about the size or material.

PEAR WITHOUT BLOOM (E. T. D.).—The produce of "six bushels" last year is a very sufficient reason. Next year the bloom will, probably, be as abundant as usual.

MELON PLANTS SCORCHED (A Gardener in Trouble).—It was, probably, caused by the heat being raised too high, and the fumes of the sulphur not being allowed to escape.

SPOTTED CAMELLIA LEAVES (Michael).—The markings upon the Camellia leaves seem to be the punctures of some kind of insect; for instance, the Chermes will puncture the young leaves of plants in this manner for the purpose of placing their eggs. But the raised spots may proceed from some parasitical fungus. Such cases are generally brought on from inattention to fumigating, and neglecting the use of the syringe occasionally; there is no doubt but these two points have been much wanting in the structure where these Camellias, &c., have been grown. We would close such a structure on a calm evening, give it a thorough good fumigation with tobacco, and paint with sulphur; give no more air the next day than was required to prevent burning or scalding the plants; after which we would re-place every plant in the house, removing all decayed leaves at the same time, stir the earth upon the surface of every pot, and thoroughly water any one that might need it; and if we found any plants with leaves filthy at all, these should be well washed separately. Then, all being neatly placed, and the house swept out, the following evening after fumigating, and the house being closed, we would give the whole a syringing. The leaf sent we cannot recognize. It may be one from *Photinia arbutifolia*; but it is doubtful.

NAMES OF INSECTS (A. K. P.).—The very minute hairy caterpillars, which have so much gnawed the leaves of your Peaches, are the young of some moth quite recently hatched from the eggs. It is not possible, at this very young state, to determine the species they belong to; but from their appearance they may be the produce of the Lackey, or the Vapourer Moth, the caterpillars of which, at a later period, do much injury to Plums, Green Gages, &c., by eating the leaves. It will, therefore, be necessary for you to keep a sharp look out to prevent their attaining the full size. (F. B.).—The grubs which have eaten the roots of the turf of your lawn are the larvæ of a species of Daddy-long-legs. They are very difficult to get rid of; but, probably, repeated waterings with lime-water would have the effect. A better plan is to set children to catch all the flies as soon as they appear in the winged state in a few weeks' time, which will, at all events, prevent a fresh brood making its appearance next year.—W.

NAMES OF PLANTS (Clericus).—The blue flower with long linear leaves is one of the Grape Hyacinths, *Muscari racemosum*, or commonly called the Starch-scented Hyacinth. The little purple Crosswort is the *Aubrietia purpurea*, and the showy little Crosswort is the *Alyssum saxatile*, or the Rock Madwort. The white Crosswort is *Arabis alpina*. The double white flower is the *Saxifraga granulata*; the other blue liliaceous flower is a species of Squill, *Scilla italica*, we think; and the yellow-flowering shrub, which belongs to the natural order Berberry-worts, we believe to be *Berberis (Mahonia) aquifolium*. (W. R.).—Your grass-like plant is the *Scirpus sylvaticus*, known by the name of the Wood Club-rush, or Millet Cypress-grass. It is found in moist woods.

PLANTS FOR A WATER CISTERN (R. H. C.).—There is no hardy water plant that would droop down so far to hide the outside of the cistern; but many plants would answer to hang on a pot-book to cover or break the line of the kerb-stone. *Hydrangeas* are the best for the purpose. Why not plant Tree Box as high as the cistern, and close to it, and keep them cut to that height? Try planting them now.

PROPAGATING SWEET BRIER (A Constant Reader).—It is best raised from seed, saved in the autumn, and sown in drills in the March following.

RUNNERS FOR A SCREEN (F. H., Old Ford).—In your neighbourhood nothing will be so quick growing, so efficient, or more ornamental than Runner Kidney Beans; two scarlet and two white-blossomed sown alternately.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close May 14th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray.

HULL AND EAST RIDING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

PARIS. May 23rd to June 7th. Sec., M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

PRESCOT. July 8th. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

THE CAUSES THAT FREQUENTLY PRODUCE COMPLAINTS AGAINST THE DECISIONS OF POULTRY JUDGES.

No subject seems so generally interesting, in connexion with Poultry Shows, as the decisions of the parties appointed as judges. The matter is continually appearing before the public, in some shape or other, either as a disquisition on some particular award, or a wholesale declamation and exposure of any inconsistency that may perchance arise. From whichever cause they proceed, the result is invariably the same; the judges are denounced as the only delinquents, and publicly set forth as the scapegoats on whom it is justifiable to pour unmitigated disapprobation.

Of late, this has more particularly assumed the nature of a "fashion," and many a disappointed competitor feels but little compunction to act as fogleman on the occasion, in the hope his own particular interests may possibly be indirectly advanced by this procedure. In most of such instances, the inquiry rests exclusively in the exposure of the shortcomings of the successful ones; whilst those of the defeated are as frequently "glossed over," and should they happen to possess an important good feature, this latter is, in the same spirit, unduly magnified and prominently insisted upon. If calmly considered, we have no doubt that good may arise, even out of this prevalent evil; and with that single conviction we have introduced the subject to the attention of our readers, more particularly as we indulge in the hope of being enabled to point out a few causes that not unfrequently lead to disappointment, and hope (thus exposed) their recurrence will be proportionably limited.

It by no means is certain that first impressions are the most correct ones; and, as on every occasion the judges appear to be held alone responsible for the awards, it cannot fairly be asserted, that to point out other causes that may lead to error is labour lost and trouble thrown away. One of the principal mistakes in conducting a poultry exhibition, under present management, is, undoubtedly, the by far too limited period allotted to judges for the deliberate performance of their thankless and truly arduous duties. If any poultry amateur, possessing a large stock, will only reflect on the time and trouble he has himself devoted to the selection of his five or six pens of fowls, prior to des-

patching them for competition, he will be in a position to estimate the amount of labour that must be entailed on the judges who have to discriminate the perfections and failings of, perhaps, as many hundred competing pens, and in most probably an even more limited space of time and opportunity for selection. The amateur, usually, has had the advantages not only of long acquaintance with his favourites, but also unlimited time, and careful inspection by open daylight. On the contrary, we know many instances in which poultry judges have had no other resource, than to apportion the premiums by the aid of a policeman's "bull's-eye lantern," or even the light of a couple of common candles, and be it remembered, without the slightest previous knowledge of the competitors. This leads to the fact, on which we cannot too strongly insist, viz., that daylight is really indispensable to the proper adjudication of the prizes, and that it is not less important, that all the pens in the exhibition should enjoy, at least, a close approximation to daylight and similarity of position. If poultry exhibition committees would only strive to effect a perfect arrangement as to light, it would tend, incalculably, to prevent complaints as to judges and their decisions. None but the experienced can appreciate the disadvantages of position, arising from either a dark *under* pen, or contrawise (in case of *triple* rows of coops), where the top pen has to be judged by the agency of a "pair of steps," or left an undetermined question, "whether there are any fowls whatever in the pen." Another circumstance that tells heavily on judges, arises from parties who send poultry for exhibition drawing, little by little, on the time appointed for the use of the judges. Committees very naturally desire to make their exhibition as attractive as possible to the public generally, therefore, not unfrequently, if fowls arrive "after time," they are still admitted, nay, even "waited for," perchance for hours. From this sole cause we have known poultry judges kept waiting for three or four hours before commencing, beyond the affixed time, and then endeavour to make up lost time, by apportioning 140 or 150 premiums in the sadly too limited space of two hours, that the expectant visitors might not be interfered with.

It is everywhere admitted, that whatever is done with compulsory rapidity, must, of necessity, be always liable to the mischances of oversight. It cannot fairly be expected that so many prizes can possibly be fairly awarded at the rate of about one per minute. The effort is too great for even the most proficient, though we most readily admit, we are acquainted with some few gentlemen who will "run through a poultry show" in a couple of hours, with by far less mistakes in the awards than others who drearily toil at the same allotted task from daybreak to actual evening. Constant practice, decisiveness, and a really quick eye, telling thus favourably to the advantage of the more experienced.

There is still another point well worthy of the particular attention of committees,—the time of day selected for apportioning the premiums. Very early or very late hours are equally to be avoided, as poultry *never* look to advantage at those periods. From eight in the morning until about four in the afternoon are the most favourable hours, as fowls of all kinds always then look their best. Again, poultry should never be too long fasted, and the difficulty is only increased a hundred-fold by after repletion.

Committees are very apt not to be ready with the pens in time; the fowls are from this cause not only fasted unnecessarily, but also cramped, more particularly where the travelling hamper is a somewhat confined one. Poultry thus treated, must, inevitably, show more or less of exhaustion, according to their previous "condition." The most robust will recover very speedily, and, on the contrary, those partially "worn out," by previous "over-working" (from excessive travelling, or exhibition excitement), will look "very sadly" for hours, or even the whole remainder of their stay. The latter, of course, lose ground proportionably by their lack of rude health, and look the very reverse of interesting, when admitted, alike to the public or the previously determined examination of the arbitrators. Want of proper care at home is never so prominently injurious as in close competition, where almost every trait of character is perfect in two competing pens of fowls; of course, "condition" wins the day. It is really wonderful

to see the alteration a few hours ill usage will produce in fowls, more particularly if tenderly reared hitherto; and we ourselves have frequently been witnesses to fowls purchased when successful at one show, for prices, too, that must ensure the new owner's *attention* (however ill-applied), exhibited a few week's afterwards in a state of lassitude really deplorable to look upon. It is not all amateurs who know how to improve, or can retain the "condition" of their fowls. They being too severely tested, "die actually by inches," and are cruelly still shown on, till death proves the end of their most serious sufferings.

If fowls previously fasted are then permitted the full satiety of their appetites, they not only become frequently "crop-bound," and die speedily, if not properly attended, but compete to terrible disadvantage if judged during the temporary indisposition thus produced. Still these continued changes of "condition," and consequent appearance, are rarely considered when complaints are in vogue against the judges, though "condition" is the main feature in favour or disadvantage of the competitors, and which may possibly be much altered, either for or against any specified pen in only a few hours.

We are not persistent in the opinion that poultry judges are immaculate. We know that errors are always occasionally unavoidable, but we have thus dared to point out a few of the circumstances that not unfrequently cause the burden of complaint "to be laid on the back of the wrong horse;" but we must maintain, at the same time, how much more easy it is to point out (at leisure) an erroneous poultry award, than either to rectify it, or determine which is the most praiseworthy at the onset. We lean to the suspicion very strongly, that when errors do unfortunately arise, the generality of them occur almost invariably when none of the fowls competing are really good; in short, that good poultry, however closely they struggle for the mastery, are more easily judged than when all are of medium character only. Still it does not answer to "withhold" too many premiums; it lessens alike the importance of the present meeting, and tends sadly against those of coming years.

The observations we have now made are called forth from *facts* which have very frequently been brought before us lately, viz., the unexpected difficulties of getting individuals to act at our poultry meetings (as arbitrators), who alike enjoy the confidence of exhibitors for their probity and efficiency. Those committees only who have "tried it," know how great a trial this now proves, as from the annoyances (both personal and by anonymous complaints), we know two or three gentlemen, hitherto notorious, who have voluntarily declined the acceptance of this thankless office for the future, and their efficiency (and, at present, much-wanted services) are, therefore, altogether lost to the poultry world generally.

In respect of judges, our opinions are easily explained. Complaints, if any arise, ought, by all means, to be exclusively determined whilst the poultry can be inspected, and facts proved, or statements falsified. The diverse after-expression of opinion only fosters rash assertions, angry expostulations, and, in some instances, anything but a well-advised or gentlemanly style of correspondence. On the contrary, if complaints are only recognisable whilst the fowls are available, we shall not find parties pertinaciously insist on matters that any one possessing common discernment could satisfy himself, even by a furtive glance, did or did not exist. The feelings of all disputants would be spared, the judges could not complain of false or needless accusation, and good friendly sentiments would abound far more universally than they now do.

THE TURTLE DOVE, COLUMBA TURTUR.

French. TOURTERELLE DES BOIS. *Ger.* DIE TURTELTAUBE.

THE Turtle Dove is the smallest of our native Doves, or arboreal Pigeons; they are natives of the whole of temperate Europe and Asia. In this country they are birds of passage, coming in the spring about the beginning of May, breeding here, and leaving again early in autumn. They are about the size of a Missel Thrush, measuring about ten or eleven

inches in length, and about eighteen inches in breadth from tip to tip of the expanded wings; the beak is long and thin, measuring about three-quarters-of-an-inch, and dark horn-coloured; the coverings of the nostrils reddish-white; the irides of the eyes a bright orange-red, and the edges of the eyelids form a reddish thread-like circle round the eyes; the feet and toes are deep red, and the nails dull black. The general colour of the plumage is a rufous-brown, having an ashen-grey tinge in the male, and varying in depth of colour in different parts of the body; on each side of the neck is a square black spot, some of the feathers forming it have white tips, which give it a pretty chequered appearance; the covert feathers of the wings, too, are black, bordered with rufous-brown, which also add to their beauty; the pinion feathers are dark; the tail long in proportion to the bird, the two centre feathers of a rufous-brown colour, the others of a slaty-black, tipped with white, the outer feathers having a white margin; these large white spots form a half-circle on the spread tail as the bird flies; the belly and under tail coverts are white. The young ones do not have the spots on the neck till the first moult, and are more of a uniform brown colour; the slender neck, round, plump form of body, and large tail, give the Turtle Dove an elegance of shape rarely surpassed by the domesticated Pigeons.

The Turtle Dove is exceedingly shy and wary in its wild state; they frequent the deep woods and thickets, preferring a Pine or Fir tree to build on. The nest is formed of twigs, and lined with finer twigs or roots, and but slightly depressed in the centre; it is often placed on a flat fir bough, covered by another; they lay two small white eggs, and sit about a fortnight; they feed on all kinds of small grain and seeds. Bechstein considers the seed of the Pine tree as their principal food. Although so shy in a state of nature, yet if the young are taken from the nest and reared by hand, or mouth, they become very tame, and will occasionally breed in confinement, and may be permitted to enjoy their liberty in summer; but care must be taken to confine them at the migratory season, or they will decamp without hope of returning the next spring. Their coo, or call, is peculiar, being a prolonged mournful rattle, something to the sound of Kour-ur-ur-r; the cock holding his head low and swelling his throat utters his deep purring note to his mate, and usually remains still while playing to her. They breed freely with the Collared Turtle, or common cage Dove. Dr. Bechstein remarks that the hybrid progenies are prolific, and that the produce becomes larger each cross. Their coo is peculiar, and differs from either of the parents.

Latham speaks of a variety found in Buckinghamshire, which he calls the spotted necked Turtle, on account of the greater part of the neck being covered with black feathers, and spotted with white. Bechstein says, he has seen old cocks of the common Turtle in which the neck spots had become so large as to give this appearance. The flesh, particularly of the young, is wholesome and well-flavoured. Turtle Doves were among the things offered as sacrifices by the Ancient Jews.—B. P. BRENT.

ERRATA.—In the paper on the Ring Dove, German name, for Ringeltaube, read *Ringeltaube*; for Bechmast, read *Beechmast*; and for a stack of wheat, read a *shock* of wheat (*i.e.*, several sheaves placed together in the field).

PRESCOT POULTRY SHOW.—The day of exhibition is altered to July the 8th.

LICE ON CHICKENS.

IN my runs at home, I have this year been breeding almost exclusively from varieties that are not sitters, and have, consequently, had to obtain broody hens from other yards.

For sitting away from their own homes, no fowls are superior (if any are equal) to Cochins; they are very apt, however, to abound with lice; this renders them irritable when sitting, and, consequently, unsteady at times, and the lice are communicated to the chickens, producing, where they abound in great numbers, a degree of irritation which is in many cases fatal. Often have I observed chickens hatched

under borrowed hens drooping without any evident cause, and slowly passing from bad to worse. On careful examination, I have found nothing to account for the symptoms but a large number of lice, and, on destroying these pests, have been pleased to see the rapid restoration of the delicate patients. The remedy I employ is one which I have mentioned in *THE COTTAGE GARDENER* previously, but its effects on young chickens are so beneficial, that at this season of the year I do not hesitate to direct attention to it again. It is simply flour of sulphur placed in a common pepper or flour dredger, and dusted well into the feathers of the patient; in less than a quarter of an hour not a single insect will remain if the remedy has been properly applied. I have rather hesitated to employ the sulphur to hens whilst sitting, as it is possible that it might have an injurious effect on the eggs; but it unquestionably has none on the youngest chickens, even when applied in such profusion as to make white Polands look in colour like lemon-coloured Cochins.—W. B. TEGETMEIER, *Tottenham*.

MARKING EGGS FOR HATCHING.

IN marking eggs for hatching, I have found the following minutiae save, at times, a considerable degree of trouble and uncertainty. It is desirable to use a pen and ink instead of pencil, as the latter is generally rubbed off before the end of the three weeks; to mark those kept for hatching, as they are collected, with the initials of the variety and the date; and to write nearer the small end than the large, as the latter is thrown off in hatching, and it is troublesome to ascertain which eggs are hatched—of course, this is only important when a sitting of various eggs is placed under the hen.

When other hens can gain access to the nest of the sitting hens, there will often be found additions to the number, which it is important to be able to distinguish at first sight. This is readily accomplished by marking the eggs given to the hen with a ring or zone around each, so that in whatever position they are placed the mark is visible, and unmarked ones are readily distinguished and may be at once removed. Although these minutiae may perhaps appear trivial, I have found attention to them save trouble and some amount of time in examining the nests.—W. B. TEGETMEIER, *Tottenham*.

CRAMP IN A TURKEY.—EFFECT OF GAS TAR ON FOWLS.

I HAVE a Turkey which has had the cramp in its feet for nearly three weeks, it cannot stand nor open its feet; can you tell me what I should do with it? I have tried warm baths, and kept it in a warm place, but it does not seem to improve under my treatment. I should feel obliged by your informing me whether the odour of gas tar is injurious to fowls, as three of my hens died without any apparent cause. Upon examination, I found a jar of tar on a shelf at the top of the roosting-house, which is about a yard and a quarter square and seven feet high?—J. S. FYSSHER.

(It is difficult to reply satisfactorily to queries respecting the diseases of birds unless the symptoms are rather fully detailed; it is not stated whether the bird is old or young, whether the complaint arose apparently from cold, or from muscular weakness and inability to support the weight of the body. I should suggest a dry, warm lodging, some stimulant, as pepper, in its food, and some iron daily, say five grains of the citrate of iron, or three grains of the sulphate of iron mixed with meal.

Gas tar contains several volatile chemical substances of a deleterious character, and in a confined roosting-house of one yard and a quarter square would be very likely to cause disease.—W. B. T.)

SPARROW HAVING THE CANARY'S SONG.

WILL you allow me to suggest to Mr. E. Hewitt, that the Sparrow, with the Canary's song, about which he is so

enthusiastic, is the Hedge Sparrow, or Hedge Accentor, and not the common House Sparrow. The former has a beautiful song, and, as he says, "superior plumage," and would, doubtless, under the circumstances, readily learn the Canary's song, which is itself usually an imitation only. For the common House Sparrow to sing like a Canary would require a special miracle in the re-creation of a vocal organ differing from all the rest of his race.—A VERY OLD SUBSCRIBER.

(We forwarded the above to Mr. Hewitt, and his answer is this:—

"Permit me, in reply to your correspondent, who, like myself, has been a very old subscriber, to sincerely thank him for the suggestions he offers me that the Sparrow I alluded to, as singing the song of the Canary, was the Hedge Sparrow, or Hedge Accentor, and *not* the common Eaves, or House Sparrow. I, like himself, was altogether sceptical as to the bare possibility of any really *vocal* powers being possessed by the common Sparrow, and, *before* seeing it, felt as confidently certain as he does, that the bird would prove a male of the variety he mentions; more particularly, as I well knew the Hedge Sparrow very easily acquired the songs of other birds, if trained whilst young. The result was *not*, however, as I imagined. This bird is a veritable House Sparrow, but in unusually cleanly and superior plumage. If your correspondent will kindly forward me his own address, or favour me with that of any friend in Birmingham, who wishes the opportunity, I will at once remit the address of the owner of this *rara avis*, and am sure, on the most casual inspection, all differences of opinion will at once cease, as the bird mentioned is not of the 'soft-billed tribe,' but belongs to the family of 'Grossbeaks.' My sole motive for writing you in the first instance, was the very easy proof, and apparent impossibility, of such a *singing* bird existing.—EDWARD HEWITT, *Eden Cottage, Sparkbrook, near Birmingham.*")

EGG NOT PASSING A CAUSE OF BARRENNESS.

ABOUT the latter end of November, or beginning of December last, I cannot name the exact day, as I made no note of it at the time, I had a hen egg-bound. She continued so for more than a week, when all trace of the egg disappeared, and I was obliged to think that the egg had been laid and eaten. She did not, however, lay another egg, although she seemed in good health, eat as heartily as any of her companions, and evidently gained in weight. In February I changed my residence, and thinking she had been too much confined, I gave her a more extended run; but finding, after a fortnight, that she did not lay, I ordered her to be killed on the 8th of March, and, on examination, a shelled egg was found still adhering to the passage, but had undergone a change. From a brown the shell had changed to a chalky grey, as well as the interior, which consisted of a thin fluid and a granulated curdy mass. The hen weighed, when dressed, without the leaf, 4lbs. 13oz., and appeared to be healthy in every respect, but was very fat.—C. R.

THE FAREHAM POULTRY SHOW.

THE COTTAGE GARDENER now being the leading journal in all poultry matters—and some most valuable information it has diffused—it would, perhaps, not be out of place to give a few words of advice to the gentlemen who have the management, or getting up, of the above show (I mean the Committee). Much praise is due to them for the pains taken by them at the last show. I believe every effort was made to ensure success; but as all must have a teaching, whether young or old, and all such are more likely to censure than praise, I think one great drawback, or, rather, mistake, was made, that of enforcing the birds to be at the place of show on the Saturday morning, so as to be judged on that day, the exhibition not being open to the public till the following Monday; by this rule, I consider a-day-and-a-half was wasted, without any apparent reason. Another rule, I think, would also be an improvement, and a step in

the right direction, that of removing all diseased birds from the exhibition room; and would not fine sand be preferable to sawdust at the bottom of the pens? as I observed many of the fowls were eating it.—ARGUS.

OUR LETTER BOX.

VARIOUS QUERIES (A. S. N. B.).—For *White Comb*, since turmeric and coeca-nut oil have failed, you should use compound sulphur ointment, give castor oil as medicine, and let the fowls have a good grass run. Lettuces are excellent food for fowls thus affected.

Roup cured in the early stages of the disease is generally eradicated from the system. If it return at any time, it is at the moulting season; and tonic medicine, with good food, will carry the patient well through it.

A very practised eye can form an opinion, but not an infallible one, of a *Spanish Chicken* at three months old. The cocks show the white face much earlier than the pullets. The latter are not to be discarded for faults till they are twelve months old, if you have faith in their breed.

When competition is close, any *dissimilarity in the Birds of a pen* is likely to be fatal to success. The difference between a Vulture-hooked Cochlin, and one lacking that distinction, is less important than any other; but we advise you to abstain from it.

An *indisposition to sit* is no proof of high-breeding, or otherwise, in a Cochlin fowl.

LONDON MARKETS.—MAY 19TH.

COVENT GARDEN.

Considerable improvement is to be observed both in the quality and supply of *Fruit and Vegetables* since the beautiful change in the weather. *Hothouse Grapes and Strawberries* are now quite equal to the demand; *Pines* somewhat scarce for the season, owing to the late gloomy, chilly weather being so unfavourable for the forcing and ripening of them. Among *Vegetables*, *French Beans* are quite a drag. *Asparagus*, both French and English, very plentiful, and much reduced in price. Imported goods comprise *New Potatoes, Carrots, Artichokes, Cauliflowers*, and all the usual description of *Salading*. *Potatoes* still come to hand very freely; 90s. to 100s. for top samples.



FRUIT.			
Apples, kitchen, per bushel.....	6s. to 10s.	Beet, per doz.....	1s. to 1s. 6d.
"dessert.....	6s. " 10s.	Potatoes, per cwt. . .	3s. to 6s.
Pears, per dozen . . .	1s. " 3s.	" Frame, per lb . .	1s. to 1s. 3d.
Peaches, per doz. . . .	36s. " 48s.	" New, ditto . . .	4d. to 6d.
Nectarines, do.	36s. " 48s.	Onions, Young, per cwt. 4d. . .	6d.
Pine-apples, per lb. . .	8s. " 14s.	" Old, per bushel 5s. . .	7s.
Foreign Grapes, per lb. 3s. .	4s.	Turnips, per bunch. . .	1s. 6d. " 2d.
Hothouse ditto, ditto 6d. .	1s.	Leeks, per bunch . . .	2d. " 3d.
Strawberries, per oz. .	6d. " 1s.	Garlic, per lb.	6d. " 8d.
Foreign Melons, each 3s. .	6s.	Horseradish, per	
Oranges, per 100 . . .	4s. " 10s.	bundle	1s. 6d. to 2s. 6d.
Seville Oranges, do. . .	6s. " 12s.	Shallots, per lb. . . .	6d. " 1s.
Lemons	6s. " 12s.	Lettuce, Cos, each . . .	6d. " 8d.
Almonds, per lb. . . .	2s. " 1s.	" Cabbage per doz. 2d. .	3d.
Nuts, Filberts, per		Endive, per score . .	1s. 6d. " 2s.
100 lbs.	50s. " 60s.	Celery, per bunch. . .	9d. to 1s. 6d.
" Cobs, ditto . .	60s. " 70s.	Radishes, Turnip, per	
" Barcelona, per		dozen bunches . . .	— to 6d.
bushel	20s. " 22s.	Water Cresses, ditto .	6d. " 9d.
Nuts, Brazil, ditto. . .	12s. " 14s.	Small Salad, per	
Walnuts, per 1000 . .	9s. " 12s.	punnet	2d. " 3d.
Chestnuts, per bushel 15s. .	24s.	Artichokes, per lb. . .	— " 2d.
VEGETABLES.		Asparagus, per bundle 3s. .	6s.
Cabbages, per doz. . .	1s. to 1s. 6d.	Sea-kale, per punnet 1s. 6d. .	2s.
" Red, per doz. . .	2s. to 4s.	Rhubarb, per bundle .	3d. " 6d.
Cauliflowers, per doz. 4s. .	6s.	Cucumbers, each . . .	6d. to 1s. 6d.
Brocoli per bdl. . . .	1s. " 2s.	Mushrooms, per pot 1s. 6d. .	2s.
Savoy	1s. " 2s.	HERBS.	
Greens, per doz. bunch. 4s. .	6s.	Basil, per bunch . . .	4d. to 6d.
Spinach, per sieve . .	— " 4s.	Marjoram, per bunch .	4d. " 6d.
Green Peas, per quart 3s. .	5s.	Fennel, per bunch . .	2d. " 3d.
French Beans, per 100 9d. .	1s.	Savory, per bunch . .	2d. " 3d.
Carrots, per bunch . .	9d. to 1s. 6d.	Thyme, per bunch . .	2d. " 3d.
Parsnips, per doz. . . .	6d. to 9d.	Parsley, per bunch . .	2d. " 3d.
		Mint, per bunch . . .	2d. " 4d.
		Green Mint	6d. " 8d.

POULTRY.

The little alteration we have to note is the increased supply of small chickens, and the scarcity of larger fowls.

Large Fowls . . 7s. 6d. to 8s. each.	Quails 2s. 6d. to 2s. 9d. each.
Smaller do . . . 6s. to 6s. 6d. .	Leverets 4s. 0d. to 5s. 0d. .
Chickens . . . 3s. 0d. to 4s. 6d. .	Pigeons 9d. to 10d. .
Goslings 7s. to 7s. 6d. .	Rabbit 1s. 6d. to 1s. 7d. .
Ducklings . . . 3s. 6d. to 4s. 3d. .	Wild Ditto . . . 10d. to 1s. 0d. .
Guinea Fowl 4s. 6d. to 6s. 0d. .	Dottrell 0s. 0d. to 0s. 0d. .
Plover's Eggs, in bulk	3s.

WEEKLY CALENDAR.

D M	D W	MAY 27—June 2, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
27	TU	KING OF HANOVER BORN 1819.	29.749—29.723	75—52	S.E.	10	55 a 3	59 a 7	1 34		3 7	148
28	W	Engis rufifrons.	29.856—29.789	56—35	N.E.	09	54	VIII	1 38	24	3 0	149
29	TH	K. CHAS. II. REST., 1660.	29.893—29.872	59—37	N.	02	53	2	1 51	25	2 52	150
30	F	Nitidula rufipes.	29.949—29.879	50—40	N.	14	52	3	2 4	26	2 44	151
31	S	Nitidula nigra.	29.683—29.450	54—47	N.E.	46	51	4	2 19	27	2 36	152
1	SUN	2 SUNDAY AFTER TRINITY.	29.921—29.718	55—36	S.W.	—	50	5	2 m37	28	2 27	153
2	M	Malachius fasciatus.	30.002—29.918	61—35	S.W.	—	49	6	sets.		2 17	154

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 69.3°, and 45.5°, respectively. The greatest heat, 91°, occurred on the 28th, in 1847; and the lowest cold, 33° on the 27th, in 1836. During the period 114 days were fine, and on 82 rain fell.

RANDOM GLEANINGS DURING A FEW DAYS
IN SCOTLAND.

SCONE.

SCONE HOUSE, or, as it is generally named, *Seone Palace*, is delightfully situated on the banks of the Tay, two miles from Perth. The house stands on an elevated plateau, the ground of the noble park falling gracefully in front towards the river; while at the back it rises and swells into banks, that the Londoners would denominate hills, covered with healthy, well-managed plantations of forest trees. Viewed, therefore, from the opposite side of the river, such as from the Crieff and Dunkeld roads, and the Perth and Aberdeen railway, the mansion has a very striking and imposing appearance. Much of the enhancing artistic beauty derived from such masses of forest scenery is owing to the good taste and the practical skill of the late Mr. Beattie, who long held the position of gardener and forester, and whose pupils are now found in every part of the world. The mention of his name reminds us of contemporaries of his, who have also left us, such as Mr. Stewart, of Valleyfield; Mr. Maenab, of the Botanic Gardens; Mr. McDonald, of Dalkeith; Mr. Bishop, of Methuen Castle; Mr. Henderson, of Delvine; and Mr. Gorrie, of Annat Lodge, of whom I have heard the late Mr. Loudon say, he was one of the very few gardeners whose communications he could send to the printers without re-writing, when he commenced the *Gardeners' Magazine*. The improvements in the gardens and home demesne at Seone have been well continued under the auspices of Mr. Dodds, now of the firm of Dickson and Sons, Edinburgh, and by Mr. Halliday, the present gardener.

To the lover of antiquarian lore Seone is brimful of interesting associations. The romance of the rail gives its helping hand to the romantic of the past. Some of the oldest inhabitants tell of wild encounters, and crafty and cruel deeds that happened in the olden time; and the numbers of coffins and piles of armour they had seen when the present mansion was building, and the grounds fresh levelled in consequence.

In the front of the house is a Plane-tree, now somewhat dilapidated, said to be planted by the fair hands of the unfortunate Queen Mary; and there is one Oak said to be planted by her son, and another that lays claim to still greater antiquity. In the house are tapestry and bed-furniture wrought by the hands of the same Queen, and beds in which monarchs of old have reposed. At a short distance from the house is the ancient Cross of Seone, removed carefully a few yards from its ancient site, some twenty-five years ago, to make way for a new approach, but placed exactly as it formerly stood, and where it now remains, in a solitude contrasting greatly, if stones can reflect, with the excitement and animation of antiquity, when around it were congregated something of the bustle of a Barnet fair, or a Falkirk tryste. Between the back of the house and the stable offices is situated a mound covered with trees, called the *Moat Hill*, the centre occupied with a small

ecclesiastical building, termed the *Aisle*, the burying-place of the family; the very spot on which, in olden times, the ancient Kings of Scotland, seated on the legendary stone, were crowned; while the sturdy Barons, as if for the purpose of asserting their independence while they gave their homage, stood on their own soil in the bottom of their boots, and by the emptying of these boots, when the ceremony was over, helped to swell the size of of the mound. I question if even yet the Scotch boys at school, conversant with the tales of Wallace and Bruce, can forget or easily forgive the carrying off this famous stone, and other regalia, by Edward I., though informed that they are used in the coronation of our British monarchs.

Owing to the rapid growth of young trees, it struck me that the park was over-timbered, and that there was not a sufficient contrast between it and the massive forest scenery with which it was backed. If desirable, the thinning into groups would not interfere with the blending of park and forest; while even from a distance the one would be seen to be distinct from the other.

The lawns are very extensive, with little on them to attract the eye, save the greenness of the grass—a system which, in such large places, with plenty of wood in the back-ground and fore-ground, adds to the massive dignity of the mansion. This is, perhaps, further increased by the lawns being bounded by a stone wall, rising two feet, or more, above their level, and partaking of the Gothic architecture of the mansion. It is doubtful, however, if, standing at the mansion, some lovers of natural scenery would not rather delight to let their eye range from lawn to park over a common ha-ha without any obstruction whatever. These lawns, except at the entrance front, have been cut out into green terraces and sloping banks by Mr. Dodds, and Mr. Halliday drew my attention to the fact, that though great masses of earth were moved, and the work had been finished a number of years, not a hollow place was yet perceptible; showing how carefully the work had been done. It has been complained of that, as a class, we are apt to depreciate the efforts of our predecessors; but an honourable man will never build his own fame on detracting from the credit due to another.

The flower-garden is situated between the lawn and the kitchen-garden. It has little resemblance to what it was twenty-five years ago. It has been altered, bit by bit, so often, and the trees and shrubs have so grown, that it yields an amount of pleasure from being unlike anything we now generally meet with. If all the shrubs had fair play there would be little room for flowers. Done afresh chiefly as an American ground, with a few groups for flowers in the open spaces, it would yet repay the care of the flower gardener for his anxieties; but ere long, if the shrubs are to be preserved—and they are worthy of attention—a flower-garden worthy of the places must be found in another site.

The kitchen-garden contains about four acres within the walls. The soil is strong loam, and very productive as respects late crops, which are chiefly wanted. The

wall trees show the same care in training as distinguished the garden in Mr. Beattie's time. Three of the huge Morello Cherries, that were such gems a quarter of a century since, are vigorous and symmetrical still. They will soon be matched by some others planted by Mr. Dodds, which are beautiful specimens of cultural skill. The Pear trees were loaded with blossom. This I found at other places, though in this quarter we are very deficient this season. Apricots had set freely. Some Pear trees that had done little good for several years were loaded with bloom buds. Mr. Halliday thought they were previously too poor to form flower-buds freely. The borders had been dressed for Dahlias, and the increased strength, he believed, to be the result. He was quite conversant with the over-luxuriant theory; but want of sufficient vigour may be as much against forming flower-buds as too much of it. Plums, Cherries, &c., promised to be abundant. Owing to the abundance of Pheasants, every Pea has to be protected with wire netting, and even Cabbage and Cauliflower plants before they get a good size have to be covered every night with pots. No wonder that gardeners, at times, look upon gamo as little better than vermin.

With the exception of a Pinery, with good plants, heated by hot-water pipes, a pit-house heated by a tank, and pits heated by dung, the forcing-houses are heated by flues, which answer extremely well. There are three ranges in one line of about 100 feet each, and each of these is again subdivided into divisions, which are appropriated to Peaches and Vines. The houses were all narrow at first; but two, I think, out of the three, have been widened.

Mr. Halliday spoke strongly in favour of the narrow house for keeping grapes in winter and spring with no trouble, when it was next to impossible to keep them in the wide houses, owing to the falling of the condensed moisture. The Peaches had set a full crop. The mode of planting and training is such as I have seen long ago at Hampton Court. One set of trees are planted against the back wall. Another, consisting of short standards, are planted in the middle of the house, under every second rafter; and there trained to a trellis across the house, leaving head way at the back. This plan, with variations, has been followed at Dunkeld and Dalkeith. Unless for certain purposes, we can see nothing in favour of the plan. I can well conceive how it was adopted at Scone. There is no greenhouse or conservatory, and yet many fine plants are grown, and in the spaces between the hanging trellises across the house, many plants could be set in a late Peach-house, when they would be too much shaded in an earlier Vinery. In the Vineries, I found fine Camellia plants growing freely after flowering. In the Peach-house were many beautiful Azaleas. I have no doubt these were destined to change places, as Mr. Halliday spoke of the importance of giving the Azaleas a little heat, to get an early formation of buds. The Vineries were showing abundant crops.

I have said the flues in these forcing-houses answer extremely well. It is worth something to know how; more especially as Mr. Halliday never syringes his Vines, and it would be a rare thing to see houses looking better. The flues are covered with a strong tile, with a turned-up edge on each side, about one inch in depth. The top of the flue being level, and these tiles firmly joined together by Roman cement, a basin is formed for holding water the whole length of the flue. From the time that forcing really commences, the top of the flue has a constant supply of water, and hence the moisture given off is just in proportion to the artificial heat applied. A due hygrometric state of the atmosphere is thus secured. In a Muscat house, at a high temperature, so genial and pleasant was the atmosphere, that without seeing, I could have hardly believed that the heat was supplied

by a flue. Many inquiries are made as to the commencing and discontinuing of syringing for certain crops; but were a supply of moisture to the atmosphere thus secured—whatever the mode of heating—the syringe would next to enjoy a sinecure, and one advantage would be, that no sediment from the water would ever encrust fruit or leaves, the moisture raised by evaporation being as pure as the dew-drop. Of course, as the fruit approaches maturity the vapour pans must be allowed gradually to dry.

In the houses I observed thousands of seedlings of *Abies Douglasii*, raised from cones produced by a fine tree in the flower-garden, about forty feet high, and from a fine specimen still at Lyndock—contemporary, I presume, with other two good specimens at Raith. These, and seedlings some years old, are intended by his lordship (the Earl of Mansfield) to be planted in massive groups. The fine tree at the flower-garden was moved to its present site, some years back, by Mr. Dodds, and nothing could have answered better, though many would have been rather timid about it.

To the south of the kitchen-garden, formerly an orchard and nursery, a Pinetum has been planted, with plenty of room for each tree to show its distinguishing features. This will be the chief object gained, as there is nothing picturesque in the site itself. There is little doubt, but ere long many plants of the most prized kind will find a home in romantic and undulating ground, by the sides of the many miles of gravel walks and green drives that now exist. The latter are continually undergoing a series of improvements, by introducing masses of evergreens, Rhododendrons, &c., by their sides, and on prominent and out-jutting points. These are first planted thickly, for immediate effect, and then the mass becomes a nursery for supplying other masses in future years. Walks amid deciduous woods are thus made cheerful and ornamental at all times, and especially in winter and spring. By seizing on prominent points for masses, the tame formality of anything approaching the sameness of an evergreen-hedge is avoided. In some of the walks I traversed at Scone, a purling brook lent its influence to the forest glade, and the abrupt points and turnings in the bed of the rivulet were being used by Mr. Halliday for thus combining the natural in scenery with the picturesque in art.

R. FISH.

SALE OF MR. LODDIGES ORCHIDS.—The first portion of this unequalled collection of Orchids took place on the 15th and 16th instant. The collection comprises two thousand specimens, and these represent upwards of twelve hundred species. On the above occasion there were 280 lots, and Mr. J. C. Stevens, the auctioneer selected to distribute them, obtained for them £717, but as only about 260 lots were sold they averaged but little less than £3 per lot. We have only space to mention such as realised the highest prices. *Oncidium Lanceanum*, £9. *Dendrobium Farmeri*, £8 5s. *D. densiflorum*, £8. *Ærides Larpenteæ*, £9. *V. teres*, £10. *Oncidium purpuratum* (new), £8. *Vanda suavis*, £10 10s. *Ærides odoratum maximum*, £9 10s. *Æ. quinquevulnerum*, £10. *Calogyne pandurata*, £11. *Ærides nobile*, £21. *Æ. Schroderii*, £19 19s. *Saccolabium ampulacium*, £15; and *Vanda Batemannii*, £43 1s.

The next portion of the collection will be sold on the 30th and 31st instant.

WHITE-EYED BEDDING GERANIUMS.

THERE are two classes of Scarlet Geraniums which bid fair to take the lead of the fashion for many years, judging from the eagerness with which they are sought after in high life. I mean the *Fothergillii*, or *Nosegay*,

section, and the bright scarlets with a large, clear white eye or centre. The *Duchess of Kent* is down in this season's catalogue of E. G. Henderson and Sons, of the Wellington Road Nursery, as "a dark, rich scarlet, with large conspicuous white centre; dwarf and free flowering." This striking variety, from its conspicuous centre, makes quite a novel feature among Scarlet Geraniums. I have not seen this *Duchess of Kent* yet, therefore cannot pass an opinion on it.

In March, 1854, Mr. Gardener, a nurseryman at Maidstone, in Kent, advertised, in *THE COTTAGE GARDENER*, a "white-eyed" scarlet Geranium, called *Mrs. Rickets*, and knowing she then turned in the fancy, or fashion, I soon procured *Mrs. Rickets*, of which I heard no more in print; but *Mrs. Rickets* is the second best of the white-eyed race I have seen, and I can confidently recommend her, either for a pot-plant, or for a good, dwarfish bedder, with a horse-shoe leaf, and a moderate truss, dark scarlet, and large white eye, that is, comparatively large; the comparison being with *Baron Hugel*, which has a small, thin orange-scarlet flower, with a white eye, and is the best known kind of this strain. There have been white-eyed Scarlet Geraniums since the oldest reader of *THE COTTAGE GARDENER* had his "curly white locks" and pinafores, but no one took pains to follow out the white streaks and stars which appeared among seedlings. That "inveterate seeder," the *Old Scarlet*, I mentioned the other day, had a larger white eye than any I had seen before it, but the flower was large and flat, and of the real orange-scarlet class, so that the white eye was less conspicuous than it would appear in a higher-coloured flower.

There is one of my dark seedlings of *Punch* about the country, as *Punch* himself, with a starry white eye; but the real *Punch* has no white, not even in the claw of the petal. I should be very glad to receive the starry-eyed *Punch*, because I mean to push the white-eyed as far as I can by crossing them, and a good strain, like that of *Punch*, is of importance.

It is not yet six weeks since I altered my mind about *Mrs. Rickets*. Up to that time I thought her the best of all that breed. Mr. Fish mentioned a fine white-edged seedling, two or three years since, which he had seen at Althorp with Mr. Judd. I thought I had this kind last year to compare with *Mrs. Rickets*, but *Tom Thumb* was all I had for it. However, Mr. Fish and Mr. Judd are now looking out all the sorts thereabouts for me, and this will be among them, no doubt.

Mr. John Scott, nurseryman, Merriot Nurseries, near Crewkerne, Somerset, is among those who sent me their trade catalogues, and he has an excellent arrangement, as to colours, of all kinds of bedding-out plants. One of his "first-rate bedders," called *Dazzel*, has a marked white eye, and another "first-rate" is a dwarf plant called *Reidei*, with a white eye. I do not see any more white-eyed kinds in all the catalogues which have been sent to me for the last three years, and from not seeing the above, I cannot say how they stand in the comparison with *Mrs. Rickets*, which was the best of them, in my own eye, till very recently.

The history of the best white-eyed Geranium which I have seen is this:—In the summer of 1854 one of our correspondents sent me a box of trusses of a new white-eyed scarlet Geranium, from a distant part of the country, to see what I thought of it. He told me this Geranium was picked up in the south of Spain by an English traveller, and that he received it either from this traveller, or some one of his friends, I forget which. He said it was the prettiest thing he ever saw, and that if I thought well of it he would send it to Mr. Jackson, at Kingston, who is his patron nurseryman. Unfortunately, however, Scarlet Geraniums will not travel ten miles in a close box without the flowers falling to pieces the moment you unpack them, and these were no ex-

ception to the usual tale; but I could see, from the large, white portion at the bottom of each petal being equally deep on all the petals, that the "eye" must have been well-marked; the flowers were bright scarlet. I know the man who sent the flowers; he is a young gardener, whose name ought to be a MacGregor, or a Campbell, for he comes from Argyle, or Aberfoil, or thereabouts. He sent the new scarlet to Mr. Jackson, with a request that it should be called after his brave countryman, *Sir Colin Campbell*; they are all of a clan, I suppose; at all events, *Sir Colin Campbell* is by far the best of its race that I have yet seen—a strong grower, a large truss, a large flower, and a large white eye.

I said the other day that I would point out such as were more naturally inclined to flower in winter. *Mrs. Rickets* has been in flower with me the whole of this winter, that is, there were two trusses on one plant, and between the two I could cut scarlet blossoms any day, from last November till April, but the white eye disappeared all the winter, and is not so strong yet as it will be in the height of summer and in the open air. Mr. Jackson's propagators tell me that *Sir Colin Campbell* is also inclined to flower naturally through the winter. Mr. Scott says, in his catalogue, one called *Royal Dwarf* is "a good winter flowering sort;" and there was another advertised, a few seasons back, by Mr. Glendinning as a constant bloomer. All that I can yet say on that head is now before you. If it is possible to manage old plants of Scarlet Geraniums, so as to flower, without forcing, during the winter, and I firmly believe the thing to be possible, then it follows, that if some kinds are inclined to flower in the winter, or, which is the same thing, are more perpetual bloomers,—such kinds are sure to be the best for treating in an especial manner with a view of being made to bloom only in winter. Whether there is a real tendency for winter blooming, I much question. I did not grow the plant from a cutting, and the disposition might have been induced by the treatment before the plant came into my possession. I mean to cross flowers, however, for this very purpose. The pollen of *Sir Colin Campbell* on the flowers of *Mrs. Rickets* should unite the qualities of both in equal proportion. The mother, more generally, carries the lead of the habits, if the two parents are of equal strength; if the mother is an Amazon, and the father a "little man," every one of the seedlings take the stronger habit of the mother; but from so renowned a warrior as *Sir Colin* undoubtedly is—and his namesake is the same among its class—and the well-known beauty of *Mrs. Rickets*, together with her more feminine-like weakness of constitution, I shall expect a breed of slow, temperate, and very manageable little Campbells, which will bear any experiments for winter flowering, with less hurt to themselves than most other breeds which I can mention from my own experience.

The *Fire Queen*, a bold, scarlet truss and a small, white eye, is the last of this strain which I have seen. I am not aware of the names of the raisers, or of the pedigree, of any one of these Geraniums, except that one which was raised by Mr. Judd. Some of the others may carry more than one name, and may only be different in name—I mean such as I have not seen myself. To prevent confusion of this kind, and to enable one to buy with confidence, is the reason why I am so anxious to register the pedigree of every bedding Geranium. When a nurseryman buys a seedling which he is quite sure is different from all others in its class, his name is a sure guarantee for that kind, and is sufficient for the registrar-general; but several of my own seedlings, which I never thought worth naming, are about under different names, and so with other seedlings, thus causing a distrust in new names. For my part, I hesitate to buy or recommend any plant which is not well authenticated—

bedding Geraniums, particularly. Then, as to saying which is which, from cut flowers through the post, there is not a man on earth who can tell the right name; and you might just as well send your scarlet Geranium to the man in the moon, as to the first *professor* in the line, on this side the globe, at least; indeed, it is but quackery of the first order to pretend to do anything of the kind.

From what I have heard for the last two years, I am perfectly satisfied that there will soon be a "rage" for white-eyed, scarlet Geraniums, both for bedding and for indoors, also for new kinds of the Nosegay breed, but they appear to be more scarce, and none of them that I have seen are better than the oldest. The *Pink Nosegay*, alias *Green's Seedling*, and alias *Fothergillii-Salmon*, is another as good. *Mrs. Vernon* is another, and the best scarlet of them. I had it from Mrs. Vernon Harcourt herself, to Shrubland Park, in 1851, and I have not seen it since, but I should like to have it now. I had one more of them, the *Lilac Nosegay*, which is a pinkish flower, and seeds to such a degree, that I consider it as bad as any weed in a garden. In my eyes, and in those eyes for which I used to be on "the look out," a truss of dry beaks in seed is as much out of place in a bed, vase, or pot, as a bunch of Sow-thistles,—in fact, intolerable. They had one kind of horse-shoe at the Crystal Palace, the first season, and every flower on it seeded to the end of the season; but they must have burnt it, for you never saw any more of it; and any body who allows Geraniums to seed in the beds ought to be brought before a magistrate for a nuisance.

There was a very good *Nosegay* at the Crystal Palace last season, and I think it must be mentioned in my report of the plants in the colonnade. It was a present from some one, whose name I forgot; but if I see it again, I shall register the name and all about it, to prevent more confusion; these, with my own crimson *Nosegay*, which is only a breeder yet, are all that I ever heard of, and I cannot distinguish them in the nursery catalogues as they are at present arranged. The *Nosegay* was the first real, or accidental, cross in the scarlet breed, and none, in that strain, better than it has appeared yet. It comes as true from seeds as if it were a wild species; but many more of them come equally true if they are confined to their own pollen. Now that we have so many variegated kinds, the next kind we want more particularly is a dwarf edging plant, with a perfectly black horse-shoe mark. Any kind of flower will do, but if it is a scarlet, the eye must be white. *Baron Hugel* is the nearest we have to what I mean, but the leaf is not the thing; the green is not green enough, and the dark is too brown.

There was a seedling by Mr. Wighton, from Cossy Hall, in Norfolk, with the best dark mark I ever saw, but I forget the habit of the plant. A strong grower must not be used for an edging, particularly an edging to a variegated Geranium. Let breeders be on their self-interest, and we shall soon hear of a suitable edging, not only for variegated Geraniums, but also for *Tom Thumb*; but would you believe it, there was actually a Geranium edging to a bed of *Tom Thumb* at the Crystal Palace last season, without any one out of ten thousands perceiving it, although it was in the centre of the terrace-garden, on the right-hand side after coming down the steps from the upper walk; so you see there is a desire for all these moves in the higher circles in gardening.

D. BEATON.

FLORISTS' FLOWERS.

THE VERBENA.

THERE are every year such large numbers of new Verbenas raised, both in this country and on the continent, that it is extremely difficult, and no easy task, to select twelve of the best out of the number.

In those below, I have endeavoured to choose the varieties that will be suitable for both the flower-garden as bedders, and to grow in pots; for either the greenhouse stage or the exhibition table. There are many in the nurserymen's catalogues, the merits of which are not sufficiently proved; therefore, another summer's trial must pass before a correct judgment can be formed on their respective merits.

What are the properties of a good Verbena? This is a question that has often been put to me. I will take this opportunity of giving my rules by which I judge any new or old varieties that are submitted to my inspection. The first indispensable property is form, or shape. This is a property that every kind of florists' flower must possess. The Verbena, as is well known, blooms in trusses, and each separate flower in the truss is called a *pip*. These should be round in general form, each petal should be stout and thick, with smooth edge, that is, without notches. They should also be as flat as possible. The truss should also be flat, and each pip, in forming the truss, should just touch each other, so that the interior of the truss should be hid. It is also a great advantage if the outer blooms remain perfect till the innermost ones are expanded. Colour: this should be dense, and clear, and distinct, in the striped varieties. Habit: the bloom should be abundant, the plant dwarf, and the foliage rather small. With these properties, any seedling will be worth propagating, and sending out to the public.

TWELVE SELECTED NEW VARIETIES.

1. *Countess of Oxford* (Bragg).—Form and habit good; colour a rich lavender, or a silver-grey, with a large, white eye. A conspicuous and pleasing variety, very distinct from any other.
2. *Crimson Perfection* (Edmonds).—Truss very fine; pip round, flat, and thick; colour bright ruby-red, with a large, white eye; habit good. A fine variety for bedding.
3. *Criterion* (Weatherill).—Truss medium size; pip round and stout; colour nearly a self rosy-pink; habit excellent. One of the best of its class.
4. *Dr. Maclean* (Edmonds).—Truss very large; bloom large, even, and stout; colour a fine rosy-purple, very distinct; eye large, and pure white; an abundant bloom; of excellent habit. Especially suitable for pot-culture.
5. *Duke of Cambridge* (Edmonds).—Truss large; bloom medium; colour a deep, rich purple, with a neat, round, clear white eye. A free grower, of excellent habit.
6. *Imperialis* (Bragg).—Truss medium size, and well formed; pip large, flat, and stout; colour mulberry-crimson, with a light centre; very novel and distinct; habit good. An abundant bloomer, and excellent for bedding.
7. *King of Sardinia* (Edmonds).—Truss large; bloom large, flat, and stout; colour rich crimson, with a dark centre; habit good. Excellent for bedding.
8. *Loveliness* (Edmonds).—Truss large and flat; pips well formed, flat, and stout; colour a bright rosy-pink, one of the best of that colour; habit dwarf and compact; a most abundant bloomer. An especial good bedding variety.
9. *Moonlight* (Bragg).—Truss large; blooms also large and well formed; colour pure white; habit a free-grower and most abundant bloomer. The best white variety ever raised for pot-culture.
10. *Pre-eminent* (Edmonds).—Truss large; blooms large, also flat, round, and stout; colour bright ruby-red; eye large and pure white; habit dwarf. A very fine variety.
11. *Standard Bearer* (Edmonds).—Truss medium size, very compact; blooms large; colour deep blue, with

large, white centre, a great improvement on *Viola*; habit good.

12. *Victory* (Edmonds).—Rosy-purple colour, with large, white eye; truss large; pips well formed. An excellent variety.

Price 3s. 6d. to 5s. each. If the twelve are ordered, a considerable reduction ought to be made.

TWELVE SELECTED OLDER VARIETIES.

1. *Annie Laurie* (Edmonds).—Rosy-purple colour, with large, white centre; trusses large and well formed; pips also large, very flat, and round; habit good. A free grower, and abundant bloomer.

2. *Arisosto*.—Truss medium; blooms ditto; colour a rich maroon. A fine, dark variety.

3. *Brilliant de Vaise* (Chauviere).—Rich, brilliant crimson colour, shaded in the centre with purple. A splendid variety, of good form and excellent habit.

4. *Duchess of Northumberland* (Barker).—Colour a light pink or peach; trusses large and compact; blooms well formed; habit very dwarf, and a free bloomer. Quite a novel, distinct variety, suitable for any purpose.

5. *Etoile de Venus* (Leon Lille).—Colour a delicate blush, with large, rosy-purple centre; trusses large; habit spreading. A free bloomer, and a most excellent variety.

6. *King of Purples* (Scobie).—Truss compact and medium size; pip good and well-shaped; habit dwarf and compact; colour a fine purple, with deep chocolate eye. One of the best bedding varieties we possess.

7. *King of Scarlets* (Thomson).—Colour a brilliant scarlet, with large lemon-colour eye; trusses large; pip well formed. One of the most effectual bedders; ought to be grown universally.

8. *Madame Bandinal* (Chauviere).—Truss medium size; pip well formed; colour a deep rose (very unique), with a light centre; habit a free grower, and abundant bloomer.

9. *Madame de Savalliere* (Chauviere).—Colour a clear, pale lilac, or silver-grey, with a dark purple centre; trusses large and compact; pip good; and habit excellent. Very novel and striking.

10. *El Brillant*.—Colour pink, with large, rich crimson centre. A very distinct and beautiful variety.

11. *Purpurea magnifica* (Bragg).—Truss large; pip good; colour purplish-crimson. A good, self-coloured, bedding variety.

12. *Wonderful* (Edmonds).—Rich plum-purple colour, with a large, white centre; trusses large and compact; pip fine form. Most excellent for bedding or pot-culture.

Prices, 1s. to 2s. 6d.

T. APPLEBY.

(To be continued.)

THE BEAUTY OF WHITE FLOWERS.

It is not often that I step out of my province into the more fashionable one of flowers, but there are certain points in which our relative positions run into each other with one of those fine connecting links by which so many other things are united together; for it happens that flowers and food sometimes become united in the same object, but my present intention was not to confine myself to such things, but to make a sort of sally into the flower-garden, with the double purpose of asking advice and offering some opinions; and the subject I have taken is one of the many useful ones into which our "bedding system" of flower-garden is divided, but it is equally applicable to other branches as well, i.e., of the flower or decorative garden department.

The purpose I have in view is to call attention to the meagre list of white-flowered bedding-plants which we have to deal with. It is true, we have long arrays of

names of plants said to be white, such as, *Verbena*, *Petunia*, *Geranium*, *Salvia*, *Pentstemon*, and, more recently, *Calceolaria*; but though all these are good in their way, they all fall short of what I call a *pure white*. There is in most of them a tinge of some other colour, or they lack that degree of purity which is so essential in this colour.

Now, can some of our florists (who add, year after year, to our long list of bedding-plants) turn their attention to this matter? It would be well to sacrifice some of those points of shape and habit which they are too often induced to regard as the most important points of a plant's qualification; yet, in some, colour is the one thing most necessary; and, as pure white is, perhaps, the most difficult of all colours to attain, its acquisition would be the more honourable to the acquirer.

Roses contain few varieties that can be called really good, pure whites; and it is not every stand of *Dahlias* that can boast of one of that hue, although I confess, when it does so, its value is much enhanced; for if a prize for dissimilar colours be given, the wider the range of such colours the better, the stand ought to be considered, other things being attended to likewise.

Now, in ordinary flower-gardening, quite two-thirds of the flower-beds are surrounded by turf, which, in spite of all that can be said to the contrary, exercises a large influence on the general effect of the flowers planted there, rendering certain colours more useful than others; and whites and yellows are seldom misplaced where a green base, or back ground, is to be worked upon.

If any one feels sceptical of the effects of white flowers as being, perhaps, the most effective of any in floral display, let him look at what is exhibited in a large way by Nature herself. First, we have the delicate *Snowdrop*, vieing with its half name-sake in delicacy of colouring; next, we have the *Black Thorn*, the *Plum*, wild and cultivated *Cherry*, the *White Thorn*, and, when summer is fairly settled, we have the *Elder*; besides which, we have innumerable small plants, of which white is the most prominent portion of their flowers' colouring. Compared with these, what are our other prominent colours? It is true, a more gorgeous display is made by the *Furze*, or *Whin*, when flowering in a mass; and I have seen a similar display from some acres of *Broom*, when grown in a similar large way; while our moors, gay with the *Heath* bloom, are splendid enough in August; still, I confess to have a partiality for white, and next to that to yellow; they being usually more early bloomers than other colours,—and one display of hardy flowers in spring would be meagre without the *Arabis*, *Alyssum*, *Iberis*, and other plants that way; and if we remove the white *Camellia* and yellow *Cytisus* from the conservatory, its two most important ornaments are gone. In fact, I regard the white *Camellia* the nearest approach to *pure white* of any flower we possess; and if we had any thing in the flower-garden way like it in colour that would bloom continuously, I should regard it as a most important acquisition, and deserving a place everywhere.

I may here be allowed to say that the best white flower I have for bedding purposes is the *Double White Feverfew*. Mine is a seedling raised here, and it has less of the green centre than the old one. It is very effective while in early flower, but when it fades it is no longer ornamental, and it does not produce such an endless succession as the *Verbena* and *Petunia*, so that I often plant it mixed with something else to take its place when it is no longer useful, or, by planting the bed with plants of two or three stages of growth, a greater succession may be obtained, and the plant is, perhaps, the most accommodating of any in the way of propagating easily, and growing on all kinds of soil; but I often grow it in mixed beds with the dwarf purple

Dahlia Zelinda, which I have grown for the last ten years. Though I like this *Feverfew* for its showy character while in flower, and with me it serves the purpose of furnishing the bed until the *Dahlia* begins, I should like it still better if, like a *Calceolaria*, it would grow on and flower throughout the whole summer and autumn. Perhaps some one has a better one than that way.

I have tried the double white *Senecio*, but it does not answer at all; large plants of it being so likely to die off that I have ceased to grow it. A better and more useful bedder would be the *Double Chamomile*, if we were allowed to introduce it, and I see no reason why not, since some have given *Forget-me-not*, *Speedwell*, and other wild plants a trial, with what success I leave it for others to say; but for myself, I confess being fastidious, or, perhaps, whimsical in bedding-plants so-called, and limit the number employed more than most people, while in mixed borders I am anxious enough for variety; at the same time, I take care to have a good proportion of my favourite colour. *White Rockets*, *White Phloxes*, *White Stocks*, and other plants, cannot well be exceeded for general utility; and I have found a sort of common double *White Pink* of great service in making nosegays, where white ones alone are admissible; and I know of no flower better adapted for making nosegays than *Pinks*, not that I like the plain white ones best, but that they are useful in this way.

As I shall at another time enter more fully into my views of Bedding in Mass versus Mixed Beds, I will say no more here, than again repeating my advice to the amateur to cultivate all the white flowers he can, and if he wants a proof of their utility, just let him walk into some garden about dusk, where good patches of double white *Rockets* are in bloom. There is also a large white *Campanula*, very pretty, blooming at the same time. Contrast these with any thing else there, and I am not afraid of the decision; while in the shrubbery, the white *Broom*, double and single blossomed *Cherry*, the *Mock Orange*, *Guelldre Rose*, white *Lilac*, and others, give a variety and richness to the landscape, which it would be vain to look for in any other colours; while, perhaps, the most showy object of all is the snowy appearance of an old *Hawthorn-tree* when in bloom, contrasted with which our pink or scarlet *Thorus*, as they are called, present but a dull aspect.

As Nature presents us with such an abundance of white and yellow flowers, I think we ought to copy her in our flower-garden decorations; and, as well-directed skill has improved the size and appearance of many of the flowers there cultivated, we ought not to forget to improve the colouring likewise. Deep, high-tinted ones seem too much the rage; bright scarlet, maroon, deep blue, or rich purple, seem greater favourites than plain white; but I would advise gardeners to pay a little more respect to this despised colour, and by making our dull whites a little more pure, and getting rid of every stain or defect arising from discolouration in the different objects operated upon, they would confer a favour on the gardening world which could not well be had elsewhere.

Much that I have said on white flowers is also applicable to yellow ones; but as our hybridisers have done much to improve our varieties of plants bearing that colour, little need here be said—only let it be borne in mind, that yellow, like white, looks best when not tinted with other colouring. *Calceolarias* being tolerably exempt that way, as also are *Acacia*, *Alyssum*, *Cytisus*, *Broom*, *Furze*, and many other plants; while one of the most useful plants for early summer flowering is a bright yellow variety of *Cheiranthus*, of which I have several hundred plants now in bloom. I should like this better if it bloomed a month sooner; but, as it is, it is very useful, and not likely to be dispensed with; and, as it is very hardy and accommodating, it is likely

to be generally used as an early summer flowering plant, to furnish beds with temporarily, for it will bear transplanting better than most things, and strikes as freely from cuttings as a *Willow*. J. ROBSON.

ALLOTMENT FARMING.—JUNE.

ONIONS will require to be carefully thinned, and the soil loosened between the rows, and if the weather is dry, a good soaking of water to be given; the thinnings may be transplanted and supplied with water until they establish themselves. The last sowing of any good, dwarf marrow PEAS, such as *Knight's*, &c., should now be made, and the other advancing crops to be earthed up and sticked.

Sowings of *Radishes*, *Endive*, *Spinach*, *Broad* and *Kidney Beans*, *Scarlet Runners*, and *Turnips* to be made to produce successions to the former sowings; the Peas and Beans to be steeped for twenty-four hours in water, and if dry weather, the drills to be watered previously to sowing them. *Savoy*s, *Cabbages*, *Endive*, *Celery*, and late-sown *Cauliflowers* to be planted out. We would strongly advise, whenever it is practicable, to loosen the soil between the growing crops, and, if dry, to give it a good watering, as slight sprinklings do more harm than good, and to mulch with short grass, or any short litter, between the rows. By such means evaporation and the injurious effects of the summer droughts are prevented. Having discontinued to cut from the *Asparagus* beds, an application, occasionally, during the summer, of liquid-manure in a clear state, composed of horse-droppings, will do good service.

STRAWBERRIES. To cultivate them, with an expectation of obtaining a finely-flavoured and abundant crop of this delicious fruit, it is necessary to select a situation open to the full sun, well drained, and entirely away from the shade of every description of trees or fences. Deep, and rather stiff, or adhesive soil, suits them too well, but no soil is more effective in producing abundance than what is termed virgin mould, with the turf recently turned up from the pastures. Trenches, two feet deep and eighteen wide, running east and west, to be made with a space of two-feet and-a-half between the rows; preparing trenches in this manner will save the trouble of digging over the whole extent of your ground, the trenches to be filled up with a well-incorporated mixture of the soil and completely rotten stable dung. About the end of the month, or sooner if they are sufficiently rooted, the strongest plants from runners of the present year should be selected, taken up carefully with a trowel, and planted in straight rows along the middle of the top of each trench about twelve inches apart, or in double rows, eight or nine inches distant in the row, so that the plants of each row may be opposite the blanks of the other, and lightly but well watered after planting, to be repeated until they are firmly rooted; and during the summer, if the weather is dry, to be kept clean by hand-weeding, and the runners continually cut in close. As we have so frequently recommended the application of water in dry weather during the month, it is necessary to state that it is by the liberal supply of water, either naturally or artificially, that fruit-trees, vegetables, &c., grow to the greatest perfection. Whatever in any degree impedes the regular course of growth will affect the health and constitution of the plant. If the soil is neither pulverized nor porous, by which the free admission of water, and of air, &c., is impeded, and that the rays of a powerful midsummer or midday sun exhales the moisture from the leaves, until they become exhausted and droop for the want of supply of moisture at the roots, nature makes an effort to consummate her work, and the plant, or vegetable, runs prematurely to seed. Strawberries swelling off their fruit should receive a good soaking of water in dry weather, and a mulching of grass or long litter to prevent evaporation and the fruit being splashed with dirt by rain. Also, wall-fruit-trees on sloping borders require to be watered at the roots.

Vines, *Tomatoes*, *Honeysuckles*, *Jasmines*, and other such plants, require attention, to nail the young shoots to the walls or fences, to produce good fruit and abundant bloom. The summer growth of fruit-trees should now be regulated by thinning out the young shoots.

ANNUAL FLOWERS.—To prolong and to enhance the beauty of annuals, it is necessary to thin them out, and to allow sufficient space for each to branch out and to develop its natural beauty, instead of being crammed up and drawn up together with spindly stem and a flower or two on the top. Also, the beauty of herbaceous plants could be increased by thinning out the stems, which would ensure larger and finer flowers; they ought to be carefully sticked and tied up.

Many of the *greenhouse plants* may now be turned out-of-doors and placed in some sheltered but open situation, while the plants in bloom, and others kept in the greenhouse, &c., will require, at all favourable opportunities, all the air that they can get, and to be shifted and stopped as they may require it.

CINERARIAS that have nearly done blooming may be turned out of their pots in any sheltered situation, about a foot apart, and well watered. By occasionally shaking the stems, the seeds drop to the ground and vegetate, and if it is desirable to increase the old stock, an abundance of offsets will be produced.

PINKS being such general favourites will plead an excuse for repeating the following simple and effectual method of striking them in the open ground:—Select a shady, sheltered situation—the north side of a wall will do; two or three inches of any light sandy soil, with a mixture of leaf-mould, will be sufficient depth; when copiously watered, the pipings, being stripped of a few bottom-leaves and cut to a joint, can be easily inserted in the soil without a dibble, and will be fit to transplant in a month or five weeks.

About the end of the month the bark of some of the *Rose stocks* will be likely to rise freely, when they may be budded with some of the very many good sorts in cultivation. *Auriculas* will require shading from hot sun, and seedlings, sufficiently large to handle, should be pricked out into pans, put in a cold frame for a few days, and placed in a shady situation during the summer months.

Continue to tie up *Carnations*, *Picotees*, and *Pinks*, as they spindle, for blooming, and the buds before they burst. *Heartsease* strikes freely in the same manner as recommended for *Pinks*. All bulbous-rooted plants, such as *Crocus*, *Tulips*, *Anemones*, *Ranunculuses*, &c., should be taken up towards the end of the month, if their foliage have turned yellow or decayed, the bulbs to be dried and placed in an airy situation until the season of planting returns.

The *Cytisus* of various sorts, the *Rose Acacia*, *Althæa frutex*, and the *Laburnum* will produce their flowers a second time, later in the season, if they are carefully cut back after the first flowers fade.

As the **HAYMAKING** season is approaching, a few hints on the subject may be useful. It has long been advised "to make hay while the sun shines," which is a trite saying, and should be constantly borne in mind in all our daily affairs; but, could we secure fine weather without its shining our hay would be better for it, as experience has proved that the best hay is made in dry, sunless weather. Clear, sunny days extract the nutritious juices too much, and as they are generally succeeded by heavy dews in the night, it is good management to cock up the hay the second night after mowing, even though rain is not expected, such dews doing little less injury than a smart shower. This practice is necessary with regard to hay of all kinds, but is of particular importance when applied to clover. While the grass is green, it would bear much rain comparatively uninjured; whereas, when it has lost its juices it imbibes wet freely, and is, consequently, soon spoiled. Therefore it is advisable, in unfavourable weather, to keep it back, by leaving the swathe unbroken, or, if already spread out, to take the first opportunity, when sufficiently dry, to get it into cocks—if still green, into small grass cocks; if further advanced into relatively larger cocks. The sprinkling of salt over weather-beaten hay, when stacking, is strongly recommended, being an anti-putrescent, and having a tendency to prevent fermentation, the virtues of the hay is better preserved. The quantity generally used is from 14lbs to 28lbs per ton of hay. Salted hay is always preferred by cattle, and, consequently, such as had been badly got in will be better eaten by them.—WILLIAM KEANE.

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO. VII.

THE PLEASURE-GROUND.

THE pleasure-ground may consist merely of a lawn, a few shrubberies, a gravel walk or two, with the addition of a few flower-beds; or, as in some extensive garden establishments, it may combine numerous detached gardens, whether geometric or otherwise, as well as the American garden, the Rosary, Rock garden, &c., &c., which, though individually forming separate, and, with reference to each other, isolated features, should be judiciously blended in the general whole.

The best arrangement of the pleasure-ground is that in which a decidedly formal style is preserved immediately in connection with the house, passing from it to the more irregular, but not the less highly kept and artificial portion, and from that again, if circumstances will allow of such an arrangement, to where the decidedly picturesque or natural scenery prevails. The latter should consist, if possible, merely of convenient walks, cut through natural woods, in which the most striking and interesting features are brought, as it were, accidentally into view. If there is an irregularity of surface, with springs and rivulets, and an occasional Ivy-mantled old tree or pollard, very many picturesque little scenes can be realised: and these rather by happy appropriation than by labour or expense.

It has been laid down as a principle, that the flower-garden proper should always be placed in some situation entirely out of sight from the windows of the residence. If there were not very many practical examples of this, it would hardly be imagined that anything so entirely antagonistic to the legitimate objects of a garden would be carried out. If a flower-garden is intended as an embellishment to the general grounds on the one hand, and a source of visual—to say nothing of a higher—gratification on the other, why remove it to some remote corner purposely to conceal it? The flower-garden should, undoubtedly, be a principal feature in the grounds; it should be in the immediate neighbourhood of the residence, and, if possible, in full view of the windows of the principal living rooms. As a modification of the principle just alluded to, it has been urged, that when the natural scenery, looking in the direction of the garden, but which is beyond its boundaries, is not of a striking character, a flower-garden may be admitted as a main feature in the foreground; but when the distant prospect is of a character to command attention, flowers ought not to be introduced to divide the attention. With every deference to this latter axiom, coming, as it does, from so high an authority, I confess not to be able to perceive any reason for half-measures in the matter. A flower-garden either is, or is not, an appropriate and necessary feature in ornamental grounds; if the former, give it every prominence; if the latter, banish it altogether.

Let any reader call to mind the circumstance of his being on some broad terrace, in front of a noble mansion, and surrounded by all the architectural accessories necessary thereto; beneath him a glowing parterre of curious pattern—a rich mosaic of living colour; in the background masses of shrubs and sunny glades of open lawn, and in the far distance an extensive landscape, mingling from very distance with the sky itself; and then say if Art, in her legitimate capacity as the handmaid of Nature, could realise a more charming work.

As to the various minor and detached gardens which, when adopted, add so much to the intricacy, beauty, and variety to the pleasure-ground, they will, of course, be placed in situations best adapted to realise their particular features, having, at the same time, an eye to the well-being of the plants to be grown in them, as well as appropriateness to the general design.

The style of the pleasure-ground, taken as a whole, must always be determined by the nature of the ground and the scenery immediately surrounding it. When the space to be appropriated is of considerable extent, and the object is to blend, as it were, the scenery of the garden with that of the park, the natural features of the whole must be preserved. The genius of the place must determine the style. All harsh contrasts and puerile conceits would be out of place,

and must be rigidly avoided. But this only applies to the *general* features. There are always many secluded spots where every extravagance of design may with propriety be indulged in, without in any way destroying the general keeping of the whole. I shall have occasion to enlarge upon this branch of the subject in a future paper.

In grounds of limited extent, and such as are wholly detached from the surrounding scenery, as those of many suburban residences, it often becomes a question of moment how to make the most in appearance of the space at command. In such situations the attention will, in general, be wholly confined within the boundary of the garden, and as there will be no surrounding objects to be taken into consideration, the fancy may be allowed its full play, provided it is never permitted to violate good taste. There, walks may be excavated, mounds raised, and grottoes and arched passages leading from one spot to another may be profusely employed. Intricacy must compensate for the want of extent, and variety do duty for distant views.

It may be assumed as a principle, that wherever a garden is to be formed in a style wholly at variance with the surrounding grounds, a well-defined boundary should be evident. Many, indeed the greater part of gardens of suburban residences, are of some regular outline, as a parallelogram, the longest part being in the direction from the front opposite the entrance door. The usual mode of arranging such gardens is to confine the lawn and flower-beds to a part of the ground near the house, placing the kitchen-garden at the far end. A much better arrangement is, I think, often possible. I would, when the ground is of sufficient extent, place the kitchen-garden as a smaller parallelogram within the larger one; removing it, however, as far from the house as possible to secure a good breadth of lawn, and allowing sufficient space on all sides for a walk round the whole garden, with the agreeable accessories of shrubs and flowers, if not of a strip of lawn in addition. There are few gardens of the kind alluded to that would not admit of such an arrangement, and as regards planting out the vegetable department, no obstacle could present itself that might not be readily combated.

I have said that the general arrangement of the pleasure-ground should always depend, in a great measure, upon the nature of the locality which it is to occupy. The design must always be adapted to the particular situation in which it is to be worked out. If two given sites are to be laid out ornamentally, and both have exactly the same outline and dimensions, a design that would be well adapted for one, may, nevertheless, be wholly unsuited for the other. The beauties of many a fine situation are often entirely lost from the fact of the design being prepared from no other data than the mere figure and dimensions of the area to be laid out; or from its being simply an adaptation of some pre-existing design.

Many a design, too, is chosen in preference to others, from the simple fact of its looking best upon paper. Of course, I do not, for a moment, deprecate the value of a plan; on the contrary, I always recommend the adoption of one; for even in carrying out slight alterations, a previously-arranged recorded plan tends to facilitate the progress, as well as to economise the expenses of the work. I need hardly observe, however, that many persons—and those most interested, too—do not always recognise the truth of this till they have paid dearly for the omission. Work begun without any definite idea of what is to be accomplished, may be said never to be properly finished. This is a most fallacious mode of deciding, especially if the grounds are extensive, and the surface irregular. The plans for public grounds are, unfortunately, usually chosen in this way, and that, too, in many cases, by those whose occupation or pursuits do not entitle them to give an opinion of any value upon the subject. I make the observation in all humility, and with becoming deference to the opinions of others; but it is, I conceive, no more disparagement to the professional attainments of an architect that he is not conversant with the practice of physic, than it is derogatory to a member of a Town Council, who is entirely unacquainted with rural affairs, not to be able to pronounce upon matters relating to the scenery of a public park. In a plan every part is brought immediately under the eye; it is viewed as a whole, and the separate parts can only be judged of in relation to

each other. The eye is naturally pleased with a symmetrical arrangement; in fact, this quality must exist in every combination that delights it. No matter whether it be a painting, or a view in nature; a human figure, or one in marble; a group of figures, or an assembly of thousands; or whatever subject you can name, if the eye is to be pleased in the contemplation, the arrangement must be more or less symmetrical. This, however, is not the place to discuss the matter, further than to apply to it the subject under consideration, which is simply this: that as a pleasure-ground, except when of very limited extent, is not intended to be seen at one view, but, on the contrary, is to be made up of a series of detached scenes, each of which is separately to engage the attention, it follows that a studied symmetrical arrangement of the whole is not necessary. Now, it is a matter calling for no large amount of ingenuity or taste, to take a given outline, and to trace within it a combination of walks and shrubberies; to indicate groups of, and detached, trees, &c., which, when viewed as a whole in a finished plan, shall appear highly satisfactory and artistic as a mere pattern; and if such plan were to be executed on a tolerably flat surface, where no notice need be taken of surrounding objects, or of such as may occupy any portion of the ground to be laid out, it would, perhaps, be found suitable enough; but in practice, such a mode of procedure can very rarely be successfully adopted. There is ever something to be adapted: it may be an irregularity of surface, or existing groups of trees; some delightful prospect to be gained, or an offensive object to be hidden, or all of these, with many more combined, that will render it a plan adapted to the particular surface upon which it is to be realised. With purely geometrical gardens this is not so imperative, although, even in them, adaptation forms no mean element in a well-arranged and successful plan. This I shall consider more fully in a future paper.—GEORGE LOVELL, *Landscape Gardener, Bagshot.*

(To be continued.)

GEORGE DON.

DIED, on Feb. 25th, in Bedford-place, Kensington, aged 58, George Don, Esq., F.L.S., the last of a well-known family of botanists.

Mr. Don was a brother of the late David Don, librarian and curator of the Linnean Society, and latterly Professor of Botany in King's College, and both were sons of Mr. George Don, of Forfar, an admirable field botanist of the old school, to whom we are indebted for the discovery of many interesting plants of the Highlands, communicated in letters to Sir James Smith, author of the *English Botany*.

Mr. George Don, the son, was born in Forfar, in 1798, and commenced his scientific career as an assistant in the Botanic Garden, Chelsea. He subsequently travelled as collector of the Horticultural Society in Brazil, in the West Indies, and in Sierra Leone, and added largely to their collections, both of living and dried plants. Mr. Don's first contribution to botanical science was a clever paper in the *Transactions of the Wernerian Society of Edinburgh*, published in 1822, and he contributed some useful memoirs to the *Transactions of the Linnean Society*. His principal work was a *General System of Gardening and Botany*, founded on *Miller's Gardener's Dictionary*, in four quarto volumes, with numerous woodcuts, 1831-7. In 1855 he assisted Mrs. Loudon in editing a new edition of her late husband's *Encyclopedia of Plants*.—*Gentleman's Magazine*.

(It was in the November of 1821 that Mr. George Don accompanied Captain Sabine, of the Royal Artillery, on board the *Iphigenia* frigate, in the prosecution of scientific objects in and about the tropics. They were, in the first instance, to visit the western coast of Africa, thence to proceed to the opposite shores of South America, and the West Indian Islands, returning to England in the autumn of 1822. Mr. Don arrived at Sierra Leone in February, 1822, proceeded along the coast to the southward, stayed some weeks at the Island of St. Thomas, formed, as Mr. Sabine remarked, "a very interesting collection of specimens, and obtained a more ample account of tropical fruits than had hitherto been given to the public." This account was published in the fifth volume of the *Horticultural Society's*

Transactions, and was followed by a description of African tropical plants in the sixth and following volumes of the same work. Among these plants were *Nicotiana repanda*, obtained by Mr. Don in the Havannah, being the plant which produces the true Havannah cigar Tobacco.)

HOW TO GET ON AS A GARDENER.

A FEW days ago, I had an occasion to go to a gentleman's residence a few miles off; and, after settling the business I had to do, I, as a matter of course, asked to see the "Generally Useful," as I supposed him to be; but, according to his own account, he laid claim to the title of "Gardener," and I was of the same opinion; or, at least, he had more claim to that title than anything else; for in the flower-garden and pleasure-grounds were proofs of a longer acquaintance with them than I had had, so far as the arrangement of the fixed flowers in the mixed borders,—consequently, on that point, a note or two were taken against the fall.

Now, I have no doubt, you have many readers holding situations similar to my friend's and my own. And as I saw there an evil which, *I believe*, is in every one's power to prevent, I will endeavour to detail it.

There were three or four little meadows, from three to four acres each, with an orchard about two acres, with just fall enough to carry the water off, and all close to the house;—just such a property as any master or man may feel proud of. But such was not the case; for the grass was as coarse as bulrushes, and in patches round the hedges, in the open field, and under the Apple-trees; the nettles completely walked over the other coarse stuff, and I was told that docks and thistles were in fair proportion. Now, the question arises, "How did they come there?" My opinion is, they came in this way;—the cows, &c., are foddered in the field, and are kept out all the winter; and the dung remains on the ground for a month at a time, and often two or three. Now, it is pretty well known, that a good many seeds pass through cows and horses without injury; indeed, it is my opinion that they will vegetate the sooner for so doing, if the weather is favourable. And let any one notice these droppings at the present time (April) and just see how soon a mound of earth is thrown up by the beetles around and under them; and how soon those seeds will vegetate at this season. Then they will cease to wonder how docks and nettles come into the meadows. Another great source of trumpery, is the habit that some people have got into of doing the thing cheap. Yes! and amongst farmers, too, that we ought to look up to for instruction in these matters; but here, in this very place, they collect the scrapings off the roads, haul them to some wide out-of-the-way place, and then they are "tipped up." A few loads of dung are hauled out and mixed amongst it during the winter, or in the spring, and then the heap remains for one, two, and sometimes three years.

Now, it would not require very much wisdom to tell what kind of crop that heap will bring during the summer; and, strange to say, it is allowed to ripen its seed, and no one troubles about the crop,—and thus it goes on till hauled out on the meadows. And yet people wonder where the docks and nettles all come from.

Well, I stated this to my friend, and gave him ocular demonstration of how the seeds were sown; and, at the same time, how to prevent the growth of that coarse grass. I supposed he had a good stock of cow-dung put in the dry, for potting purposes. No; he had not; for he had no place in the dry to put in. I just hinted, that I knew a person that made use of thatched hurdles, not *only* for that purpose, but strikes his Dahlias, and hardens off his annuals and cuttings in pots, during the latter part of April and May, under them,—but no, that would not do for him, he had lived in too good situations to resort to such means as those; in fact, he said, "I'm a regular gardener;" and can grow flowers, from hardy annuals to stove plants, and fruits, from grapes to gooseberries, and all beyond that was done under protest; and, as a natural consequence, done badly. Now, I thought that man stood in a false position,—he fancied a certain kind of labour was degrading; because, at some period of his existence, he had caught the smile of an "Er-rington," or stood beneath the shadow of a "Beaton."—Truly "A little learning is a dangerous thing."

But, to the remedy. First tie the cows up in the winter, they will do with less hay; or put them in a close barton, which is better. I have tried both; and at Christmas I throw up the dung into a bed, put an old frame on it, sow my seeds for early use, and put in forcing roots for cuttings. *I fancy* cow-dung gives a sweeter and nicer heat than horse-dung. And as soon as the heat is exhausted there is another ready; and on a fine day, pots and frames are shifted and no harm done,—and there is that much dung ready to haul out to the field. Now, I have found this spring, by working dung into heaps, for the general hotbed in the kitchen-garden, on each side of this second made bed, I get sufficient heat for all seeds and cuttings; and I take care to have a good, warm heap on one side all the time, and keep some long litter against the other. This, you will perceive, is making the most of the dung.

But when there are no means to keep the stock tied up, or in a barton, the cows, &c., should be foddered in the open field, and not under trees or hedges; they will be sure to get there at night. Now, about once a week, I take a wheelbarrow and shovel, collect all the droppings and bowl them out into the middle of the field, and, after being frosted a little, they will spread nicely. If there is a pony or horse, as is generally the case, put some thorns in a hurdle, and bush the field often, and do not let any trumpery go to seed, and I'll be bound the herbage will get better every year. I have sufficient proof of it.

Gooseberries and Currants here are in beautiful health, and the crop abundant. Apples, but few,—Pears less. Peaches and Nectarines plenty. Apricots *very* few.

By giving the names of the enclosed you will greatly oblige—THE DOCTOR'S BOX.

["THE DOCTOR'S BOX" sends his specimens in a very fitting manner; each being numbered, and accompanied by some guiding information.

1. Is *Corydalis solida* of most authors, but some call it *C. tuberosa*.
2. *Berberis dulcis*, a very ornamental shrub.
3. *Alyssum saxatile*, the Rock Madwort.
4. *Phlox subulata*, an excellent plant for bed, rock, or border.]

NOTES ON SOME OLD PLANTS.

ALLOW me to add to your list of "early flowering greenhouse plants" the *Saponaria Calabrica*. It is a very favourite annual with me, and when clearing them from the beds in autumn, I took two small self-sown plants and transplanted them to the pit of my greenhouse. They grew well, with none of the weedy look generally charged against them. They were in flower by the end of January, and have continued beautiful masses of colour to the present time (May 6th), and, apparently, may last for months longer in the same place. I can, therefore, strongly recommend it either as a pot-plant, or more especially for bare places in conservatory beds.

There is another favourite of mine, which, I should think, might be grown to flower early in the greenhouse,—the *Sanguinaria Canadensis*; though short-lived, it is very bright and pretty, and curious, from its bloody juice. I wonder it is not more grown.

I am glad to see that a "Yorkshire Clergyman" has drawn your attention (p. 55) to the *Variegated Mint*. It is a capital plant. Two years ago, I recommended a friend to mix it in her bed of *Tom Thumb* Geraniums, and the effect was most striking. This year I have planted it to hide the soil in a bed of dwarf standard Roses. It is a most telling plant for nosegays. It spreads too rapidly and too freely to be planted near other plants, unless to mix with them, and does not much like transplanting.

I do not understand how your correspondent "A. D." (p. 71) found any difficulty with the *Linum grandiflorum*. I had a small packet from Messrs. Rendle, of Plymouth; every seed grew, and I have plants enough to supply many friends, after having well-stocked my own garden.—H. M. E.

DODECATHEON INTEGRIFOLIUM.

Raised from Californian seed sent home by Hartweg.

A dwarf stemless plant, with a few long, narrow, almost spatulate, undivided leaves, and a slender scape, bearing a single nodding flower, very like that of the common species, and of the same purple colour, with a yellow eye and dark purple anthers.

Such was the plant from which the annexed drawing was made. Upon looking, however, to the wild specimens, we find that it becomes much more vigorous when older, bearing as many as three flowers on a scape, or, according to Sir Wm. Hooker, eleven or twelve; in which case it becomes as interesting as the old and well-known species, so common in gardens. A damp, rich, shaded American border suits it best; and there it may be expected to grow without difficulty.—*Horticultural Society's Journal*.

SOME REMARKS ON HEATING. By Robert Glendinning, F.H.S., Chiswick Nursery, Turnham Green.

It appears to me that no system of warming horticultural buildings hitherto devised has been found so effectual as hot water applied by a properly contrived apparatus. Even although so many are interested in the subject, during the last twenty-five years little advance has been made in the methods of heating. If the law which governs the circulation of water in pipes, then and now in use, was not so clearly understood, it was at least as efficiently applied. It is true that a vast number of contrivances has been submitted to the public, all more or less setting physical science at defiance, and therefore proving either inefficient in power, or total failures. The object aimed at in these contrivances has apparently been to involve the simplicity of ordinary hot water systems by complex mechanical appliances; so far indeed has this thirst for complexity been carried, that the expense attending the setting up of these unphilosophical inventions has in many cases been doubled. Now, in the warming of the great portion of horticultural buildings, the most simple form of apparatus can be readily applied, and almost always to more advantage, and at a considerably reduced outlay. Every deviation from this, whether from caprice or necessity, either decreases the heating power, or increases the price.

The variety of boilers which from time to time have been submitted to the public, is almost beyond enumeration, each of course purporting to be better than its predecessors. In the contriving of these a great point appears always to have been to hit upon some new shape, the more out-of-the-way the better; but as the public gets bitten, or better versed in the matter, so these contorted kettles vanish in an equal ratio; their construction being as unphilosophical as the whimsicality of their form, necessarily involves an important item in their manufacture, because the more complicated and intricate the boiler, the more likely it is to get out of order; such contrivances being by no means calculated to stand the wear and tear of boilers simply designed. It is astonishing, notwithstanding the opinions adduced by persons competent to give a clear exposition of the laws of physics bearing upon this subject, how much the public has been charmed and cheated by novelty, and overlooking its own interest, has greedily swallowed project after project in perfect disregard of such warnings, and in opposition to



the welfare of plants, which, at all times where artificial heat is required, are placed in danger of being much injured if not destroyed by any derangement in the heating power. Instead, therefore, of attending to the intricate schemes of the day, let us examine that form of boiler which has stood the test of time satisfactorily, and that mode of applying pipes to convey water round the building, which experience of long standing has declared to be the best.

One of earliest boilers in use was of the arch form, and it would have been wise had we endeavoured to improve it—if indeed it is capable of improvement. The arched boiler is at once simple in shape, of efficient power, and easy application. No boiler hitherto contrived so perfectly combines these important points, for while it is possible to get up a boiler with more heating surface, there has invariably arisen some corresponding disadvantage.

But there is an important matter regarding the efficient action of a boiler, independent of its shape. Badly designed boilers when well set often answer beyond expectation, and even to the astonishment of the contriver, whereas boilers constructed upon the best principles, when improperly set, have failed. In the latter case, the heat is not advantageously applied. For instructions in setting the arch boiler in the most efficient manner, I am indebted to its inventor,* who has given me permission to publish them.

Mr. Hood's method of setting the arch boiler cannot fail to answer when properly carried out, as I have amply proved. It appears to me, however, that for large houses a greater increase of the piers of the arch would be an improvement, as thereby affording more room for fuel. Beyond this, as far as my own experience goes, it seems to be the best source of warming yet devised, combining, as it unquestionably does, both efficiency and economy.

* Charles Hood, Esq., F.R.A.S., author of "A Practical Treatise on Warming Buildings by Hot Water, and an Inquiry into the Laws of Radiant and Conducted Heat."

The cause of the motion in hot water, when conducted in pipes through buildings at a lower temperature, has long since been explained. Instead, therefore, of treating this

as a theoretical question, I shall deduce from experience a few practical rules for the guidance of those who are less acquainted with the subject than myself.

In setting the boiler it should always be placed so that no dip in the pipes which may be required in passing doorways or other unavoidable obstructions to their level run, shall be lower than its upper surface. Any deviation from this rule will most assuredly affect its proper action, less or more. Nor does it appear that this rule need be deviated from under any circumstances where hot water is applied to hothouses, if proper precautions are taken. It will only be necessary to excavate a little lower, for it is always better to err on the safe side. No obstruction or objection can possibly arise to this unless the water is near the surface, and this objection can only be sustained in old buildings. In all new erections care should in the first instance be taken to keep the buildings sufficiently above ground to admit of any arrangement for heating. This even may be got over by forming a basin similar to a water-tank—circular—with the bottom concave to resist pressure. The arrangement in the interior of the building to receive the pipes will of course vary in different structures. This, however, should be so contrived as to admit of a proper distribution of the heat, whether the air only is to be warmed, or the bed for plunging pots.

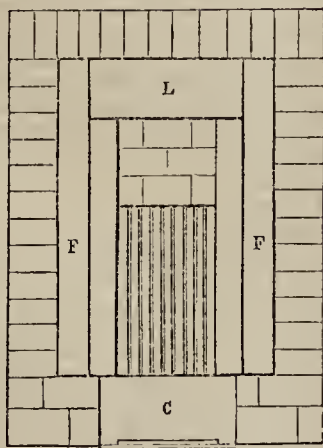
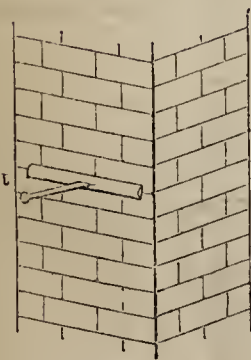
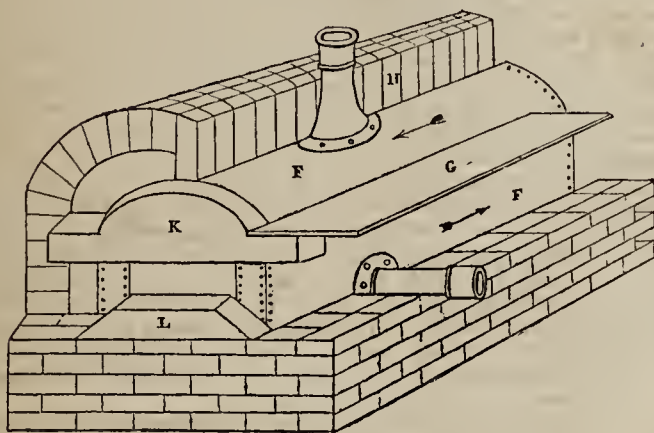
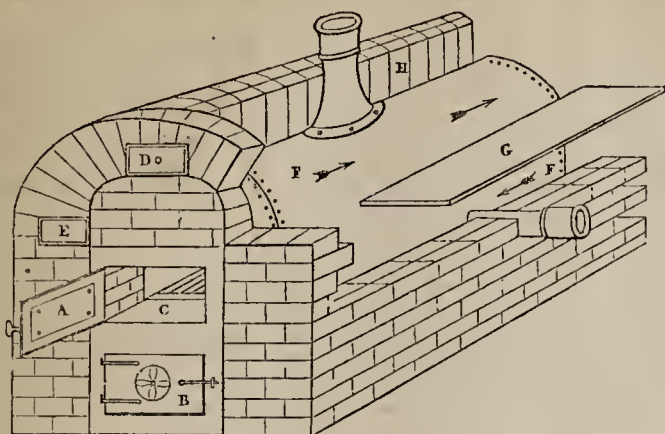
When the pipes rise from the boiler into the house, they should then be conducted *horizontally*. No deviation from this rule has yet been found of the least utility. They may, notwithstanding, be carried upon different levels, the boiler being a close one.

It will be necessary to make provision for the escape of air that may accumulate in the pipes, which would, if no outlet was provided, obstruct the circulation of the water. This is very easily effected by drilling a small hole in one or two of the upper pipes, sufficient to admit ordinary gas tubing, which can be directed up any angle of the building, two or three feet above the highest pipe. In all cases of an ordinary kind this will be found to answer, provided the pipes are accurately laid down, and are not irregular or undulating. A cistern by which the apparatus is to be filled and afterwards supplied must be provided, and may be fixed in any convenient corner of the house or stoking-pit. This cistern must be placed higher than any portion of the apparatus, and attended to as occasion may require, in order that the pipes may be constantly kept full and steam prevented from accumulating, or air admitted to interfere with the motion of the water.

When two or more houses are to be heated by one boiler, stop-cocks will be required to stop the flow of the water. These are often found extremely inefficient, or otherwise very expensive; and unless the building is very circumscribed, one boiler will be found as economical, more efficient, and easier controlled than a combination of mechanical appliances.

These observations will be readily understood by those to whom a hot water apparatus has hitherto presented a mechanical problem not readily solved. Let us hope that they may prove useful.

The cuts represent Mr. Hood's mode of setting his arched boilers. — *Horticultural Society's Journal*.



A. The furnace door.

B. The ash pit door.

C. The dumb plate.

D. and E. Soot doors. Another soot door (on the opposite side to E.) is supposed to be removed.

F. F. The upper and lower flues, which are alike on both sides of the boiler.

G. An iron flue plate to separate the lower from the upper flue, which is built into the brickwork.

H. A brick separation of the flue on the top of the boiler.

J. The damper in the chimney.

K. and L. Two fire clay lumps, placed close to the back of the boiler. The space between these is from $3\frac{1}{2}$ to $4\frac{1}{2}$ inches according to the size of the boiler and the height of the chimney. This opening is the only passage for the flame and smoke from the furnace into the flues.

BEDDING GERANIUMS.

I AM inclined to think that your worthy coadjutor, Mr. Beaton's idea of an experimental flower-garden is the very thing that is wanted, and I trust that it will meet the approval and support of amateurs and gardeners in general, who frequently, and with some reason, hesitate in purchasing bedding novelties from the advertised descriptions. Now, if parties intending to send out new bedding plants, &c., were to entrust a specimen or two of the same the previous season to Mr. Beaton, "he, of course, being distinctly understood to be strictly a disinterested party," and his report proving favourable, intending purchasers would feel a degree of confidence which they cannot do under the present system. For, as Mr. Beaton justly observes, no one can judge of the merits of a bedding plant from seeing it exhibited in a pot. Certainly, the improvement effected in bedding plants has been great within the last few years, and, if we are to credit reports, still further improvements will be, ere long, effected. In the matter of bedding Geraniums, *Flower of the Day* and *Golden Chain* are an host in themselves. But we are to have *Scarlet Flower of the Day*, that is, *Flower of the Day* in foliage and habit, with trusses, for brilliancy of colour and form of petals, &c., equal to the very best of the green-leaved varieties; and another with the foliage and habit of *Golden Chain*, with fine, large, scarlet trusses, &c. These are also about to make their *début* Annies, Almas, Countess of Warwick, Mrs. Lenoxes, &c., all, of course, superior to any thing yet sent out.

I have bedded *Mountain of Light* several years, and its only value is its fine foliage, which, certainly, constitutes it a fit companion for *Golden Chain*. Its flowers are scarlet, but they do not stand the effect of sun and rain. It should be planted thickly, and never allowed to flower.

Last summer, I bedded *Silver King* and *Attraction* (Lee's). The former proved a failure, the latter made a delightful bed; the crimson horse-shoe being exceedingly attractive; the flowers are much the same as *Flower of the Day*, certainly not better, with the flower-stalks somewhat longer.

I am about to plant two beds with the new double white *Petunia Imperial*, and will report to you my experience with it by-and-by.—ZEPHYRUS.

POTATOES VERSUS FROST.

ABOUT this time six years, I was asked by a friend of mine—a Suffolk farmer—to dine with him. Our viands in chief consisted of pork and cabbage. Be that as it may, in passing, I merely say that comparative justice was done to them by me, in an equal ratio to what we read once served to appease the hunger of a right Royal party, who became, on the spur of the moment, introduced to some "Bubble and squeak." On parting with my friend, he gave me a general invitation. "Come and dine with me," he said, "whenever you like; stand on no ceremony; and I have always a change for dinner, viz., pork and cabbage to-day, cabbage and pork to-morrow!" I well remember, my friend was then in despair about the Potato, and our argument for and against that ever-to-be-desired esculent waxed long and rather loud. Both of us were, and are, bachelors; therefore, for that reason, the word "Hush!" never once interfered to restrain our volubility. The old housekeeper never interfered beyond a few smiles; so we had it all our own way, and I expounded to my friend my system of cultivating the tuber, and I afterwards sent him some samples for seed.

The result. My friend has ever since that year included Potatoes in his bill of fare, and he has confidence that he shall continue to do so for the natural term of his life. Personally, as regards this my favourite vegetable, I am once more reposing on my laurels with so much vanity as a grower of Potatoes may fairly be entitled to, catching at men's button-holes, requesting them to "step in" and judge for themselves, and through the genial medium of THE COTTAGE GARDENER I make my annual bow, *pro bono*, in order to detail a practice not generally known, and whereby one may set at defiance, for our young, growing Potatoes, the frost of spring and its evil consequences, and, I may as well add, the disease also, in a great measure, and *certainly* the frosts of autumn.

From what hints I am about to employ, I beg to say to all my readers to whom the idea of "so much extra trouble" may occur, that that counts with me for nothing, so long as I know that a decided advantage can be obtained by it; for I always suppose that if a man "expects to eat, he must work."

I never allow my Potato-tops their free liberty to the light of night till the month of May is about to say farewell, when by that time my crops are nearly or entirely moulded up, and no more labour is required from me on their account, till I find it necessary to pick off their blossoms. So now the green tops are generally appearing over the face of the country, let me recommend to hand-scarify or fork the ground lightly between the rows; and as this is proceeded with, cover those young tops which show themselves completely, though slightly, over head with mould, and by constantly attending to this earthing over-head-and-ears, the mere chance of the frost pinching them is done away with; and another consideration, by frequently attending to this, it is also of immense advantage to the future of the plants in regard to the openness of the soil, and the circulation of air to their roots. The earthing-over process thus becomes, by degrees, completed, when, in the generality of cases, we see it about to be begun. Besides, the early earthing-over plan, as I will call it, offers another great advantage, by securing a vigorous growth in the tubers. It is as easily to be supposed that roots should necessarily be formed before their leaves, as should those of a Hyacinth, in order to insure a first-rate flower; but when the tops are allowed to take an undue precocity, they are drawing too hard upon the supplies, and nearly ruining the prospects of a crop, in order to satisfy an extravagant ambition. Now, by repeatedly earthing them over head in their infancy this growing parade is checked and smothered, and the formation of young tubers consequently accelerated; and by the latter end of May, when the tops are allowed their full freedom, the tubers also begin to insist upon their share of nourishment from the roots and stems combined, which checks all undue extravagance in the branch, and the result becomes a reciprocal action for both. Is it not so? At any rate, I have never had grander tops since I adopted this method, and my crops have been accelerated to maturity, and with a decidedly more even appearance with regard to size.

In finishing off the earthings-over, make them to present broad shoulders, slightly inclining towards the stems; thus insuring moisture, and the largest body of soil possible for the tubers to form and grow in within reach of atmospherical warmth and its influence; for by the delectable pointed right angular mouldings generally seen this is rendered impossible. And so we will now suppose ourselves well on in June, with young Potatoes every day for dinner, which, between ourselves, is by no means an unpleasant idea.—UPWARDS AND ONWARDS.

NEW PLANTS.

SAXIFRAGA CILIATA (Fringed-leaf Saxifrage). A native of the Mussooree and Suen range of the Himalaya Mountains. It was introduced in 1843. It is doubtful whether it is distinct from *S. lingulata*; and, at all events, like it and *S. crassifolia*, it is one of the most-worth cultivating of the Saxifrages. "Although considered hardy, yet, as its flowering season is early in the spring, we find the protection of a frame or cool greenhouse necessary for the full development of its blossom. We made the same remark on *S. lingulata*. They are neither of them so hardy as *S. crassifolia*."—(*Bot. Mag.*, t. 4915.)

CATTLEYA SKINNERI var. *PARVIFOLIA* (Small-flowered Skinner's Cattleya). "This Orchid was brought by Mr. Skinner from Guatemala. It is now flowering in the collection of J. Dillwyn Llewellyn, Esq., of Penllengare."—(*Ibid.* t. 4916.)

COLLINSIA BICOLOR ALBA.

BEING in possession of the genuine *Collinsia bicolor alba*, which I saved myself from seed, I have just now coming into bloom thirty pot plants of it—each will measure three

feet in circumference, and in height from sixteen to eighteen inches; *branches* beautifully; the bloom a pure white; the stems and leaves are green. My chief reason for giving you this detail for public inspection is to know if any one else has such, for I think it will be a very great acquisition to our hardy annuals. The *Collinsia* sent out this year is synonymously named by many *Bicolor alba*, when it is only the *Bartisiafolia alba*, a very diminutive variety, and not so easy and free of growth as the *bicolor* variety. I have the *Bartisiafolia alba* now only coming up, the seed of which speaks for itself—it is nearly as small as thyme seed. I intend to show on the 24th instant, at the Caledonian Horticultural Society's Show, two pots or so of the *Bicolor alba*.—WM. MELVILLE, *Dalmeny Park Gardens*.

PACKING PLANTS.

I CONSIDER the next important operation, after learning how to grow plants, is the best way to pack them, particularly in these moveable times, when every branch of human knowledge is in action. I will, therefore, with your permission, lay the following system before your readers, considering that when thousands, aye, hundreds of thousands of plants are now exchanging hands, it is a subject deserving notice at this season of the year in your pages.

My plan is to prepare all soft-wooded plants, such as *Geraniums*, *Verbenas*, *Dahlias*, *Chrysanthemums*, &c., in the following manner:—Place a little moss flat on the left hand, a small portion of leaf or light mould on the top of the moss, then place the roots of the plant and double up the moss, and tie the whole together. Place the plants afterwards in a little gentle bottom-heat, and shade them for a few days, giving them afterwards all the air you can. If the above is followed up, the plants will be in good condition to send off at the end of the third week.

I find oval baskets the best and cheapest for small quantities, and square ones for large quantities, as they are more suitable for packing inside the railway carriages. I begin packing by placing a small quantity, on the bottom of the basket, of clean, dry, wheat straw, cut about one inch in length by a chaff cutter; then I place a layer of the most hardy plants that are intended for the basket, taking care, as I proceed with the packing of the others, that I mix enough of the cut straw with the plants to allow of air passing through and through the whole. If the basket is large, I introduce, here and there, dry yew branches with the leaves adhering, which prevents any danger of the plants heating on the way.

When the plants arrive at their destination, their roots, along with the moss, ought to be placed in a mixture of earth and water, or water only, say to remain about fifteen minutes, and when planted out, they ought to be slightly shaded with branches of yew, or otherwise, for a few days. Now, though I have practised this several years, with the exception of some of my neighbours, I believe few have adopted it. It is possible that I may be over-sanguine as to the merits of my bantling, however, I am in the full belief, if generally practised, it would not only take off a grievous tax from the public lovers of plants, but us nurserymen also.

For instance, I had a few plants arrive some time since, that with pots, boxes, &c., weighed upwards of 6 cwt., the package and carriage costing upwards of £1 5s. Now, I fearlessly state, that had the above been treated on my system, they would have reached me, per passenger train, for the small cost of one shilling, and a ninepenny basket would have held them nicely. As to the packing on my system, it is so little trouble that no charge ought to be made. Besides, my system gives light employment to women, no little matter in its favour, if generally practised, as they are not over-burdened in agricultural districts with work at all suitable for them. To show further that I have reason to uphold the above, I will give two examples out of many, that have occurred in my practice. The first is, that a lady purchased of me sixteen dozen plants, and made it one of the conditions that I was to send them half way. The day was fixed, and the place of meeting somewhat fourteen miles from here. About the appointed hour and place, a team and three horses were standing a little way from the house,

a respectably-dressed person along with the carter was seen leaving the house every few minutes and looking anxiously for something they expected. A man that had arrived previously to them, was sitting in the house enjoying himself, apparently not the least fatigued; two baskets were laying under the bench he was resting on, without attracting the least notice. At last he also began to get restless, and had a look in a contrary direction to the two former. Still the old and the new could not recognise each other, and it was not till both got out of all patience, and were about to return home, they found out they were the interested parties; and I may add here, the lady afterwards told me that she was highly pleased with her plants.

The other case, I fancy, is also new in its way. Thirty-dozen plants were sent to a lady, and which arrived at her place in the country while absent in London, and though, I believe, her gardener had the charge of the house when the family was absent, and also expected the plants, when the basket arrived it was carefully placed in the cellar, being supposed to be an addition to the wine. And there it remained, true enough, till the lady arrived, about the end of July, when she found, to her annoyance, the plants in the basket instead of in her flower garden.—D. FERGUSON, *Stowe, Buckingham*.

CHILDREN'S GARDENS.

NO. V.

HAVING, in my late remarks, chiefly endeavoured to show the good effects produced by the mere expression of interest, I now purpose mentioning some modes in which the exertion of a more active influence may be made conducive to the end in view. To co-operate actively to any beneficial extent, requires time and opportunities which none but immediate connexions possess;—the visitor here is powerless.

It is needless to urge upon *parents* the consideration of my views; *their* hearts are as earnestly bent on the object as my own; but there may be among my readers some instructors, who, though loving flowers themselves, have not hitherto attempted to spread that love among their pupils. If any such there be, I venture to appeal to them on the ground of their position, *in loco parentis*, for a trial of my suggestions; or, at least, for some practical application of their own ideas on the subject.

First, I would advise that a watchful eye be kept on the proceedings of the young beginner. Do not let him fail through ignorance; but if he is disinclined to follow your advice (boys will be self-willed sometimes) propose the trial of both plans, or let the point pass good-humouredly. Experience will soon teach him to value the recommendations at present rejected. At first he will require assistance, or information, on nearly every point. By degrees, this trouble will diminish, and will be amply repaid if it procures him success;—thenceforth, he will of his own accord gather knowledge from what is passing around him; his garden, with all things relating to it, will be a pleasing topic of conversation, and next season he will attempt still greater things.

By assistance, however, I do not mean such an amount of help as would relieve a boy of any material portion of labour; this would be an error in the opposite direction. I once knew a young rogue who used to amuse himself with kite-flying, while his father was busy in his (the son's) garden. The one did all the work, the other took all the credit. I have had a similar trick attempted on myself by a youngster, who proposed playing a game at ball, with some companions whilst I was working for him. I consented, on condition that he came to me whenever I wanted his opinion, and took care to want it so often as to make him understand, that my object in working for him, was to show him how to work for himself;—that object is my rule; whatever goes beyond it is unnecessary, often injurious.

The strong principle of imitation implanted in youth may also be taken advantage of. If you are sowing seeds, repotting plants, or striking cuttings, your son will desire to do the same, and be more interested at that particular time than at any other. It is well to indulge him with the means of gratifying his wish, as thereby you seize the very moment in which instruction is most likely to make a lasting impression on his mind.

Perhaps I shall be deemed Utopian if I suggest, as an amusement for youth, the perusal of works on gardening; yet it is not so impracticable an idea as may be imagined. Suppose, for example, that your son has purchased some new plants, of which he knows nothing, except that they bear handsome flowers. He naturally desires not to lose the benefit of his outlay, and would it not interest him to read aloud to you a passage in THE COTTAGE GARDENER referring to the matter?

The columns of this journal contain a great many useful directions quite within the comprehension of a boy ten years old, as well as within his ability to carry out. The same remark is applicable to most treatises in general use; the only difficulty they present being the rather frequent mention of compost to be composed of peat, turf two years old, cow-dung ditto, with other things beyond the means of a child to procure.

Let it only be explained that tolerable success may be, in very many cases, attained without such materials (just as people grow good cabbages and potatoes in ordinary soil, notwithstanding some ingenious experimentalist might discover and recommend a compost specially adapted to the purpose), and these works will then no longer be dry reading; nay, on the contrary, will be often referred to, provided a parent, or senior friend, will but take the trouble to induce and encourage the practice.

I am, nevertheless, fain to admit that, so far as I know, a good work on horticulture, suitable to youth between the ages of ten and sixteen, is still a desideratum. Those I have met with are, in my opinion, too puerile in style, and very incomplete in matter; the authors appear to have thought it indispensable to write down to the capacity of the youngest reader, forgetful that in consequence of so doing, the book will be cast aside along with the nursery playthings. What school-boy would read a book beginning—"My dear little boy," or embellished with pictures of rakes, hoes, and other common implements? He feels that he is treated as a baby, and turns from the perusal with contempt.

The sources of supply above-mentioned will go a good way, though they may not quite suffice; it is, perhaps, better that they should not, as room will thereby be left for the exercise of the owner's taste and judgment in selection. This space must be filled at his own expense, either by direct purchase, or exchange with friends or relatives. Plants thus acquired are pretty sure to be valued, and the only question is as to the mode in which the outlay may be made to the best advantage. In settling this (to him) important business, a boy is at once in a difficulty. On consulting the seed catalogue, he finds the packets he wants marked 6d. or at least 3d. each; but his sixpences are few, and he knows, besides, that a packet contains thrice as much as he requires; he, therefore, lays aside his intention, and probably spends his money in some manner less satisfactory to himself and parents. Now this difficulty may be easily obviated, if Papa, when making out his own seed-list, will kindly call a family council, and having ascertained the wishes of each member, he will be able so to arrange that the expense shall be divided, while the choice of every one is met. It is rather late to try the plan with annuals, but just the time for biennials. Let two of my young friends spend threepence each, one in a packet of Wallflower, the other in Sweet William seed. Sow at once, and next October transplant the Sweet Williams in clumps of threes, at two feet apart, all round their gardens, putting a single Wallflower mid-way. Depend upon it they will think their money well laid out when their flowers bloom; for the Wallflowers will come early enough to be pulled up in time to avoid crowding, and the others will soon after dazzle their eyes by the brilliancy of their tints.—E.

IMPROVEMENT OF THE RASPBERRY.

MR. T. W. SHEPHERD, an Australian gardener, writes as follows.—As far as I am aware, there is not a single fruit or grass indigenous to Australia cultivated for the use of man, while there are many to be found which present as eligible a starting point as did the original of the most useful corn, or herb, or the most delicious fruit. Let us then set about experimenting, and who knows that results may not ensue which would render the term "barren wilderness," and

"desert," often applied to our country, no longer even apparently true.

As an example, I will mention one of our indigenous fruits, which appears to me to offer reasonable grounds for hoping that, by judicious cultivation and hybridization, a delicious fruit might be produced, and the experiment would not require a great deal of time to prove. The plant I allude to is known as the "native raspberry" (*Rubus Eglanteria* of botanists), and plentifully found along the shores of New South Wales, from Shoalhaven to Wide Bay. The fruit of this raspberry (for it is a true raspberry, although of a different species from any cultivated one) is larger and finer-looking than the well-known English fruit, but not nearly equal to it in flavour, although commonly eaten by the colonists, and not so bad either, as your humble servant can testify from experience, having had many a feast of them, while resting, sheltered from the rays of the mid-day sun, during fatiguing rambles in search of new specimens of plants. I would propose to endeavour to procure a cross between this raspberry and the English one, which being accomplished, there would be good reason to hope that the variety so produced, partaking, as it would be almost sure to do, of the character of both parents, would be equal, if not superior, to the best raspberry in cultivation, having this advantage over all others, that it would be adapted to our climate.

ADVANTAGES AND COST OF HEATING A SMALL BOILER BY GAS.

THERE have been, in your interesting paper, some articles on the subject of heating greenhouses with gas, which seem to me to have a tendency to deter amateurs, like myself, from employing that, to us, most useful agent.

Without further prelude, I will enter upon my experience in the matter. It must, however, be clearly understood, that I do not intend to compare the difference in the cost between the consumption of gas necessary to heat any glass structure, and that of coke or coal; all I hope to do is to state my knowledge of the use of the former, for the benefit of amateurs.

Having made up my mind to erect a small propagating house in my garden, I began to consider how I was to manage to keep the heat up; being engaged in London all the day, and not fancying having to turn out late on a wet or winter's night, to bank up the fire, if I used the usual furnace and boiler. There was, however, an objection to that mode, as my landlord would not have liked the sight of the chimney.

In my dilemma, I was induced to try gas, and was fortunate enough to be recommended to place myself in the hands of Messrs. Smith and Phillips, of 55, Skinner-street, Snow Hill, London, who furnished me with a patent gas boiler, which suited my purpose well. I will now state the dimensions of the house and consumption of gas.

The house is, inside measurement, ten feet four inches long, eight feet six inches wide, and seven feet four inches high, in the highest part. I have round it inch-and-a-half pipes. The boiler consumed, in the coldest part of the winter, three feet of gas per hour; it now only burns about two feet in the same period. The greatest quantity that can be burnt by the jet is from five to six feet per hour. The boiler cost three pounds, it is made of galvanised iron outside, and stands about three feet high.

I have always been able to keep my house up to 40° in the coldest night, with the consumption above-mentioned.

The house, I should have stated, is ridged-roofed; in fact, it is composed of four walls four feet high, with six lights, and a spanned end and a doorway.

Of course, the expense of the pipe will be according to the locality in which different persons reside, and that of laying on the gas will be regulated by the distance of the greenhouse from the ordinary gas-pipes.—FRELING J. LAWRENCE, *Lee*.

MIXING QUICKLIME WITH THE DUNG OF HOTBEDS.

MR. PETER METCALFE gardener to John Fenton, Esq., of Crimble, near Rochdale, uses a little quicklime in the form

of powder, in making up a hotbed from dung, and he is thus able to get to work immediately the bed is put together, without either turning over the dung, or waiting till it sweetens. Of course, the lime takes away the sulphuretted hydrogen, and any excessive quantity of carbonic acid gas. I think it a valuable practical improvement.—W. S.

CHEAP VARNISH FOR WOOD AND IRON-WORK.

I SEND you a good receipt for a very useful black varnish for wood and iron-work, and which needs no boiling and risk of burning. It is—one gallon of coal tar, half-a-pint of spirits of turpentine, two ounces of oil of vitriol, stirred and laid on like paint.—C. G. G.

QUERIES AND ANSWERS.

GARDENING.

CLIMBERS FOR THE EAST FRONT OF A HOUSE.

"Could you kindly inform me which are the best creepers for the old Rectory House here (near Taunton)? I am situated on the top of a very high, bleak hill, with no shelter whatever, and the aspect of the house is *due east*. This aspect had evidently been chosen by the former owner for the sake of a most magnificent view, which is certainly very enjoyable. At the same time, I should much like to find some flowering creepers which would be likely to flourish under the disadvantageous circumstances I have named.—R. E. M."

[We would, first of all, have a deep, rich border. We would plant *Cotoneaster microphylla* on each side of the door, and several feet from it. Seven or eight years' old plants, and all the small wood cut out, would be best. *Climonanthus fragrans*, and *C. grandiflorus*, will do on any aspect, except due north, and ought to be against all houses that are so covered. *Clematis montana* no cold will impair, and is now a "sheet" of white blossoms, wherever it is established. It would cover a whole house faster than the Virginian Creeper, which is not a "flowering creeper" so called? To the above add *Ayrshire Roses*.]

DISEASED GERANIUMS.

"I have had the Geranium of which I enclose two leaves and flower several years. It was given me under the name of the *Bishop of Exeter*, but as I have never seen that name in any florists' list, or otherwise, I suppose it is a wrong one. Can it be *Bishopstowe Scarlet*? In the parent plant, and in the great number we have raised from it, they are all disfigured, as in those leaves I send you. No insect can be the cause, for we never find one; and though some plants are kept in frames, some in the vinery, and others in the conservatory, all equally suffer. It cannot be, I think, from the glass.—W. C."

[The flowers of the Scarlet Geranium fall to pieces, *invariably*, as soon as a box or letter is opened in which they have been inclosed, if only for a few hours. There are, at least, 100 kinds of plants of this breed, which are not to be found in trade lists. We could supply forty such kinds at this moment. We do not happen to know either of the kinds you mention, and no one can tell the name of a Scarlet Geranium, from leaves and fallen flowers, unless it is a very marked kind indeed, such as *Baron Hugel*, *Mrs. Rickets*, and *Sir Colin Campbell*, one of the newest and very best. The disease in the leaves is as common as the breed itself. We have plenty of it just now, the worse luck; it is analogous to the "blister" on the Peach leaves. We ascribe it entirely to one cause—the plants had too much frost some time since the last season's growth. The frost affects the parts immediately *below the bark* first, and in frost-bitten Geraniums, a black ring there, when you cut a shoot across, reveals the fact, although you might not have seen it even in the leaves, and the only injury which a

slight touch of the frost causes, are blistered leaves, as soon as next season's growth has advanced a little; but the look is all the harm, in most cases, for the plants will soon "grow out of it," particularly if they are planted out.]

PROPAGATION OF PHALÆNOPSIS GRANDIFLORA.

"I have a *Phalænopsis grandiflora* about flowering, and am told it can be propagated from its flower-stem, which is now about twelve inches long. Can you inform me of the manner of so doing, and how I am to proceed? It is a fine, healthy plant, on a block, and I am desirous of having a second of it.—ORCHID, *Dublin*."

[You have been rightly informed, that the *Phalænopsis* may be increased by its stem, for the fact is well known, that the large plant at the Chiswick Gardens did send forth two or three young plants on its flower-stems, but we have never heard that any other cultivator has been so fortunate, neither did any imported plants ever arrive in this country with young plants on their flower-stems. Still, what one man has done, another may do, therefore, there is no reason why you may not succeed also. The way Mr. Gordon accomplished this point, was, by first allowing the stems to bloom, and then nipping off the end of the stem. The young plants then appeared about two-thirds down the stems, one only on each. Try that on your plant, and let us know the result.

The plant at Chiswick was the strongest one that ever was imported, and it might be that strength enabled it to form young plants soon after its arrival. We believe it has never done so since. Yet, as there evidently are buds or germs of plants on the flower-stems, it only requires care and close attention to induce them to come forth, providing circumstances are favourable.]

DIVIDING DIELYTRA SPECTABILIS.

"My gardener says that a plant of *Dielytia*, at present in a large pot, ought to be divided, to strengthen the bloom. Is he right? or will not repotting it into a larger pot, undivided, be more likely to make a large and strong specimen?—W. X. W."

[It is decidedly wrong to recommend dividing a plant of *Dielytia*, at this season, or at any season it may be in growth, with the view of strengthening the plant. You may divide it for the purpose of increasing the number of plants.

The way to manage them for large specimens, is to put them into their *flowering-pots* as soon as it is safe to turn them out after flowering. To plunge the pot one inch over the rim, in a warm, sheltered place, where the wind is not likely to affect the shoots. To see that the plants do not want for water, or have too much of it. To cut them down any time after the 20th of September. To take up the pots and turn them on their sides in a dry shed or outhouse early in November. When we transplant the roots from the open ground the flowers are not so fine.]

TO CORRESPONDENTS.

BULL-HEADS (*R. B. T.*).—We do not know what these are.

LAWN INJURED BY GRUBS (*W. C., Brighton*).—They are the larva of the May Bug or Cockchafer (*Melolontha vulgaris*). Destroying the parents whenever seen is the best preventive. It is said that watering the turf with weak ammoniacal liquor from the gas-works will destroy the grubs.

CONSERVATORY FOUNTAIN (*A. C.*).—We advise you to write to the Parisian manufacturer, whose direction is given at page 113 of our last volume, and inquire what he will deliver one for in London.

PEARS FROM CUTTINGS (*Suburban*).—Wait until the summer is over before you come to a conclusion.

FUCHSIA NOT SENT (*L. R. Lucas*).—The parties you name are one and the same. The less you have to do with them the better.

PLANTS ROUND RUSTIC SUMMER-HOUSE (*G. S.*).—Confine the roots of the white Ivy-leaf Geraniums, if in pots, and use old plants in the open ground, and no kind flowers more freely. Your own plan of terracing the bank and facing the bank with rough larch is the best that one could think of. The most appropriate fence is "diamond paling," and rough larch poles, sawed through the middle, is the best wood. These "uprights" stand at 45° angle to the rails, leaving a "diamond" opening at each crossing.

NAMES OF INSECTS.—The little insects which *Goddess* finds inside and outside the house on the glass at this season of the year are not young Lady Birds, as she suggests. They are a small, pretty species of Mite (*Bryobia gloriosa*, Koch Deutsehl. Faun. Ins. 133. f. 8). They are of the full size. We believe them quite harmless.—I. O. W.

The *Gooseberry-leaves* and *berries* marked with an indurated red blotch exhibit no traces of the attacks of insects. The spots are diseased vegetable tissue, probably produced by atmospheric causes.—I. O. W.

NAME OF PLANT (V. B. D.).—Your plant is the *Doronicum austriacum*; the very identical plant that Mr. Beaton mentions as a new bedder for an early bloomer.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st.

BATH AND WEST OF ENGLAND. June 4th, 5th, and 6th. Sec. Mr. J. Kingsbury, 10, Hammet Street, Taunton. Entries close May 14th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Rush, Littlefield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

EXETER. At Exeter, May 29th and 30th. Sec. Mr. T. William Gray.

HULL AND EAST RIDING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

PARIS. May 23rd to June 7th. Sec., M. M. E. Rouber, Division de l'Agriculture, rue de Varennes, No. 78 bis, Paris.

PRESCOT. July 8th. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

WINDSOR POULTRY EXHIBITION. At Windsor, 4th, 5th, and 6th of June. Secs. Thos. Chamberlain, and Henry Thompson. Entries will close May 10th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

HAMBURGHS versus COCHINS.

BEING a subscriber to, and an admirer of, your useful Publication, I am induced to send these few lines, in the hopes, like your correspondent "Felix Rabbit," that it may induce other subscribers to communicate, from time to time, any facts that they may think worth recording, as it is by such means that the knowledge of things relating to poultry, and the experience of poultry-breeders, becomes diffused amongst the world at large, and "the noble science" of poultry becomes a real, and also a remunerating pleasure.

In No. 394, p. 56, of the present volume, we read the result of the produce of three Cochin pullets, the property of your contributor, "Felix Rabbit," which speaks well of the egg-producing qualities of these birds. But, good as Cochins may be, with respect to the laying of eggs, I maintain that the Hamburgs are much better; and as I have kept an account of the eggs which have been laid by mine from the 1st of January up to the 26th of April, I will send you the result, and, thereby, afford "Felix Rabbit" an opportunity of comparing notes respecting the qualities of our respective "pets."

I have four Silver-pencilled Hamburg fowls, chickens of 1855, which, from January 1st up to April 26th, a period of seventeen weeks, have laid 302 eggs. Now, this will bear comparison with the produce of the four Cochin pullets, which, for the four first months of the year, amounted to 206 eggs. Here are the egg returns of each class of fowls.

FOUR COCHINS.		FOUR HAMBURGHS.	
January	39	January	55
February	64	February	75
March	53	March	88
April	50	April	84
	206		302

But, however, I conclude from the tables of "Felix Rabbit," that two out of his four Cochins were sitting at the time that there are blank returns in the egg account. Be it so; and let us give the sitting pullets respectively the credit of being able to lay as many eggs as any one of her companions did lay in the months where the blanks occur.

This would amount to twenty-six eggs in each hen's account, in all fifty-two, to be added to the total of 206, and the case would then stand thus—four Cochins 258 eggs v. four Hamburgs 302 eggs, being a majority in favour of the Hamburgs of ninety-six. And whether eggs were worth one shilling for fourteen, or one shilling for twenty, the result, in a pecuniary manner, would be in favour of the Hamburgs also.

Now, I am not crying down the Cochins. I hope "Felix Rabbit" will not accuse me of attempting such a thing. What I wish to show, is the superiority of the Hamburgs over the Cochins with respect to the production of eggs.

I confess that I am a Silver-pencilled Hamburg fancier. I have kept that kind of fowl for some time, have exhibited them, and am proud to be able to exhibit prize medals on my table in return, to say nothing of the "Commended," and "Highly Commended" additions to my name in the catalogues of many of the shows, and, therefore, I naturally am pleased to stand up for my "pet Hamburgs."

But, like "Felix Rabbit," I also keep Cochins, though only in a very small way. I have three Pullets of last year, and I find, on reference, that they have laid, between January 1st and April 26th, 120 eggs. Two of the three birds have sat, and hatched and reared a brood of chickens, and the third also sat the usual time, but from some cause or another the eggs were unfertile.

My object in purchasing these Cochins was on account of the well-known fact that they will lay in the hardest weather, at times when other fowls will not; and judging by the tables of "Felix Rabbit," they have justified me in this idea, as I see his four Cochins in the month of January laid thirty-nine eggs, or rather, perhaps, I should say his three Cochins, as I see that there is a blank left against one in that month, when, in all probability, she was sitting. Say, then, his three Cochins laid the thirty-nine eggs, I find, however, on looking at my book, that my three laid in that month fifty-one eggs. Indeed, taking the first four months into consideration, I have not much to complain of, for the balance, on an average, will stand thus. Four Cochins with two sittings and 206 eggs v. three Cochins with three sittings and 120 eggs. One curious fact, however, I noticed with respect to one of my Cochins, which was, that she laid eggs whilst brooding her chicks, and that, too, soon after hatching. I should be glad to know whether that is a common occurrence. Perhaps some of your contributors can tell me. With respect to the food which I give my fowls, it consists principally of what is termed damaged rice, well boiled, and made into a lump, and a cheap and nutritious kind of food I find it. The fowls like it much, and though they have occasionally a handful of corn thrown to them, yet the rice is the most preferred.

I have a good grass walk for them, with old mortar and other necessary adjuncts at hand, but, in my opinion, the secret of keeping fowls in health, consists in a scrupulous attention to the hen house; unless this be clean, sweet, and well ventilated, rump, "*et februm cohors*," will assuredly annihilate the stock.

Trusting, Mr. Editor, that you will deal with the above as shall seem most fit to you, I will put my head under my wing, and go to roost; and though I shall be ready at any time to come down from my perch, and do battle in behalf of the Hamburgs, by whomsoever they may be assailed, yet I hope that a safe and lasting peace, and a free and generous rivalry may always exist between the contributors to the pages of the POULTRY CHRONICLE—a publication which has the best wishes of—SILVER-PENCILLED HAMBURGH.

BRAHMA POOTRAS.

[We have had the two letters following upon the subject of these fowls.]

"In a recent number of the 'Poultry Chronicle' 'Cochin' wishes for some information as to the qualities of Brahmas,

and, as you express a wish for subscribers to give each other the benefit of their observations and experience through the medium of your pages, I purpose giving 'Cochin' my opinion of the breed in question. I consider them equally good layers with Cochins, and decidedly less troublesome to cure of sitting propensities: the plan I adopt is to shut up the hens, immediately they shew a desire to sit, in a coop without straw; of course, I keep them supplied with clean water and food, and three or four days generally suffice to cure them, whilst Cochins take eight or ten. Brahmas are certainly more industrious, taking far greater advantage of a grass run than Cochins, but I have never found them trespassing in my garden, although they might easily do so if they felt disposed. I have kept them two years; this is the third spring I have reared Brahma chicks, and I think it speaks well for their hardiness when I state, that during that time not a single chick has had the slightest ailment, although on a cold soil, and in a very exposed situation. I think, if 'Cochin' adopts this breed, he will have no cause to regret the change. It appears to me the 'Brahmas' are a very ill-used breed; every one thinks it fair to have a "fling" at them; but, after all, they do not accuse them of any bad qualities, only attaching to them the terrible stigma of being a *manufactured* breed, or, at best, an offshoot from the original Cochins. If this is so, will somebody have the kindness to inform me why they do not throw back to the colour of their progenitors? Every one who breeds Buff Cochins knows how difficult it is to get even two pens to match, although a large number may be bred from well-matched parents; and what endless trouble the breeder of Sebright Bantams has to keep his pens up to the mark; yet Brahmas are always black and white. I should be glad to see this subject discussed in your pages, as it appears to me the Brahmas have not yet received their due, although their excellent qualities are beginning to be appreciated; as I know two or three gentlemen who are about to get rid of their stock of Cochins, and replace them with Brahmas.—FLORA."

"You allude again, this week, to the 'manufacture' of Brahma Pootras. A relative of mine was looking at my fowls last summer, and on my telling him that Brahmas (of which I had two or three) were considered by many only a variety of Cochins, he remarked, 'I remember Brahma Pootras when I first went to India (more than *forty* years since), long before Cochins were heard of; they were considered a great rarity.' I feel a particular interest in the matter, but think the remark worth chronicling, as, perhaps, you may also do.—CLERICUS."

CHANGE OF COLOUR IN A HAMBURGH FOWL.

THE following notes were read at a recent meeting of the Dublin Natural History Society, by

MR. WILLIAMS, on a remarkable change of colour in a fowl of the *Hamburgh* breed:—"Gentlemen, I beg leave to bring before your notice this night a remarkable change of plumage in a hen of the *Hamburgh* breed, which is painfully recorded in my mind, from the fact that, by whatever affected, whether fright or otherwise, I lost the chance of the silver cup in the crested class at the Liverpool show, in January last. When I selected this bird, in the beginning of January, as one of a pen fit to compete, she was then perfect in the markings so characteristic of her variety, each feather being accurately marked, as well as having her legs blue, which is the proper colour of the breeds. The lot was not commended, and on examining the several pens at the show with a critical amateur, and discussing the several merits, and why this pen was passed by unnoticed, he pointed out what, in his opinion, was the cause, viz., that the legs of this bird were white, as he could not detect any other defect; in this view I was obliged to acquiesce, but I was not the less astonished, thinking it impossible I could have sent a bird with such a blemish. On receiving my birds home, I particularly examined her, and saw that her legs were opaque white. In about a fortnight after they became vivid pink behind, which colour has since departed. I further observed that some of the hackle and back feathers were not laced with

black, although I am sure they were so before she left Ireland. I was about to kill her, as of no further use, but on consideration thought it better to retain her, and watch if this progressed. Prior to being despatched, she was, as I said before, perfect in every respect, in perfectly apparent health, and laying sound eggs; shortly after her return, she was constantly looking for a nest, and laying soft eggs, and became so fat that her natural shape was altered. I immediately procured some old lime rubbish, and in about week her anxiety to lay diminished, and her eggs had the shell perfect as usual. I have continued to observe, and found almost daily changes, the black markings vanishing and the feathers remaining pure white. When despatched to Liverpool her tail feathers were pure white, accurately laced with black (as in the painting exhibited before you) which almost totally disappeared, but now seem to be increasing, though irregularly. This bird is now in her third year, and is one of the lot with which I took a first prize at the December show of the Amateur Poultry Society of this city. A sister of hers in the spring of last year presented similar features, but not so remarkably, the markings becoming so indistinct as to appear as if viewed through gauze. I had her killed, and she proved a very superior bird on the table; some of her eggs were set, and of the produce four birds were marked as the one now exhibited; they were the largest chickens of the kind I ever saw, being much larger than others of the same age, one of which presented features so approaching both sexes that until near a year old it could not be decided whether it was male or female. When hatched they were pure white, with the exception of some black spots on the side of the head, but on moulting acquired black collars and some spangled feathers, with almost obliterate markings. The exhibition of these will convey to the members how varieties of poultry are produced. The bird in question, in common with others, was fed on India meal, oats, potatoes, and barley occasionally, and had an extensive grass run.

I shall now pass to another portion which demands the attention of physiologists to account for, and which, as far as I can discover, is unexplained. I have at various times observed changes in the colour of feathers, but from not having carefully watched them, thought I must have been mistaken, until my attention was aroused by a paper given in this society, on the changes that occur in the plumage of birds without a moult, as in the case I allude to, that of the black-headed gull, *Larus ridibundus*, where the feathers of the head change almost suddenly from white to black, as also in the breast of the plovers. In the bird before you we have the reverse. We are all aware that sudden discoloration frequently occurs in the head of man, and that changes in colour appear in several animals from shocks of the nervous system, disease, injuries or abrasions; in the case of fairs in horses, whence they become spotted all over with white, under the collar and saddle, &c. I knew a case where a hen, which I still have, was bitten by a dog across the back, and white feathers almost immediately appeared in the shape of the bite. These disappeared on the next moult. I knew a case where a mare was bitten in the crest by a horse, and for four generations the foals had a white mark on the crest in the shape of the mouth. These latter were cases of decided injury, I presume, to the cellular tissue and the secretions therein contained, and probably have reference to the case before you. It has been my anxiety to produce male birds of the *Hamburgh* fowl, whose tail feathers should be white laced with black, as shown in the plate of Rees' *Cyclopedia* (produced), and last year I was successful, but was surprised to see that on the moult of the bird for this year the body of the feather was deeply mottled; some time after the bird was moulted, the mottling declined, and some of the feathers were pure white, laced with black. I was not able to keep this bird from want of space, but shall from time to time hear what changes may take place. I presume this subject has somewhat to do with Albinism; on which question, as relating to the ferret, I read a paper before this society some years ago, and now lay on the table specimens of several birds in exemplification."

ORIGIN OF THE NAMES OF SOME OF THE FANCY FOWLS.

I HAVE read with some interest the various observations which have lately appeared in your paper respecting the names of certain fowls, accusing them of being inapplicable, or having no connection with the previous history or habitat of the species to which they refer. I allude now more particularly to Hamburgs and Polands. How the former became connected with Hamburg, in any way, I cannot say, except it be a corruption of *Humber*, as I believe it to be, from these birds being largely kept and greatly prized on the banks of the Humber, in Yorkshire. But I conceive the *Polands* obtained their name, not from any supposed origin of the variety in that country, but from the peculiar *tuft* or *crest* of feathers adorning their heads, having a resemblance to that disease of the hair in the human species, which exists almost exclusively in *Poland*, and is known as the "*Plica Polonica*," in which the hair of the head is described by medical writers as "either lengthening itself in the form of an excessively enlarged tail, or *agglomerated* in the form of a great *tuft* or *ball* over the head;" and thus, I believe, the *Polands* obtained their appellation from their *tufted crests*.

I would further remark, as regards Hamburgs, that what are now called *Spangled* Hamburgs were formerly known as *Mooneys*, from the *full-moon* spots with which their feathers are adorned; and some birds lately exhibited in this class, which have taken first prizes, should, I conceive, be called *New Mooney*, from the *crescentic* form of their marks, as opposed to the *full round* form originally giving the name.

I have ventured to subjoin a curious code of articles, or rules, which were published as a guide for the exhibitions which took place in a Society of Fanciers at Hollins, near Oldham, formed in the year 1842, where the members competed for the following varieties:—"Red Mooned Pheasant, Silver Pheasant, Black Pheasant, and Creel Poults." (There are no rules for cock birds.) The first in order is the "Red Mooned Pheasant Poult, described as below; and should you think the remainder of any interest, I shall be happy to forward them for your next number.

"ARTICLES.—RED MOONED PHEASANT.

"*Points*.—Marks on feathers, and considered best.

"*1st. Comb*.—Best double, best square, the most erect, and best piked behind.

"*2nd. Ears*.—The largest, and best white.

"*3rd. Neck*.—The best streaked with green-black in the middle of the feathers, and best *fringed* with gold at the edges.

"*4th. Breast*.—The largest moons, brightest and best green-black, most free from being tipped with white or red at the end of the moon, and the cleanest and best red from the moon to the bottom colour.

"*5th. Back*.—The largest moons, brightest and best green-black, most free from being tipped with white or red at the edges of the moon, and the best and clearest red from the moon to the bottom colour.

"*6th. Rump*.—The largest moons, brightest and best green-black, least tipped with white or red at the edges of the moon, and the best and clearest red from the moon to the bottom colour.

"*7th. Wing*, divided into four parts: *First, Bow*.—Best and brightest green-black, and best and clearest red.

"*Second, Bars*.—To have two distinct bars, composed of the largest, clearest, brightest, and best green-black moons, and the clearest and best red from the moon to the bottom colour.

"*Third, Flight*.—The clearest and best red.

"*Fourth, The Lacing, or top of the Wing above the flight*.—Largest, clearest, brightest, and best green-black spots on the end of the feather, and the best and clearest red from the spot to the bottom colour.

"*8th. Tail*.—The brightest, darkest, and best green-black. To be full feathered.

"*9th. Legs*.—Clearest and best blue.

"*10th. General Appearance*.—The best feathered hen."

Such was the local standard set up at that time.—AMATEUR, *Cheltenham*.

[We have to apologise for this not being inserted earlier, owing to its being mislaid.—Ed. C. G.]

OUR LETTER BOX.

FOOD FOR CHICKENS A MONTH OLD (R. B. T.).—These may be fed the same as the up-grown poultry. A mixture of pollard and barley-meal for moist food, barley and oats, with plenty of green food.

HOWDEN POULTRY SHOW.—We can assure *A Subscriber* that we have not been napping; but if secretaries neither advertise in our columns (thereby intimating it is merely a local Show), and if they do not send us even a local newspaper containing a report, we cannot be expected to notice such Shows; much less to incur the expense of sending a reporter specially.

WIRE FOR DIVIDING POULTRY YARDS (Farm Bailiff).—You ask us which is *best*; and what height should it be? We answer, galvanized iron, two-inch meshed, and six feet high. Do not have a rail along the top, for the fowls see that, and try to fly up to it. For Shanghaes, four feet would be high enough.

CHICKENS DYING WITHOUT APPARENT CAUSE (A. B.).—Are you breeding too closely? We have traced very many instances similar to yours to the want of fresh blood in the yard. We object to coops closed in on all sides; there is not a sufficient supply of fresh air. Do not bleed the Bantam whose comb has turned purplish-red, but give him one grain of calomel, and use soft food, repeating the dose in four days if no improvement.—W. B. T.

LONDON MARKETS.—MAY 26TH.

COVENT GARDEN.

Supply good, and marked improvement to be noticed in consequence of the beneficial change of the weather; and home-grown produce being much more inquired after, we may expect the continental supplies to cease in another week or so. A fair sample of *Cherries* has been received with the Vegetables this week. From Cornwall and the Scilly Islands we are now getting a considerable supply of early *Potatoes*, which, however, do not move very fast. The trade for old ones is unusually heavy, excepting very first-rate parcels, which are quoted a trifle higher.

FRUIT.		Parsnips, per doz.....	
Apples, kitchen, per bushel.....	6s. to 10s.	Beet, per doz.....	1s. to 1s. 6d.
" dessert	6s., 10s.	Potatoes, per cwt. ..	3s. to 6s.
Pears, per dozen	1s., 3s.	" Framc, per lb	1s. to 1s. 3d.
Peaches, per doz.....	21s., 40s.	" New, ditto	3d. to 1s.
Nectarines, do.....	21s., 36s.	Onions, Young, per cwt. 4d.,	6d.
Pine-apples, per lb....	8s., 12s.	" Old, per bushel	5s., 7s.
Foreign Grapes, per lb.	6s., 12s.	Turnips, per bunch..	1s., 2s.
Hothouse ditto, ditto	6s., 15s.	Leeks, per bunch	2d., 3d.
Strawberries, per oz..	6d., 1s.	Garlic, per lb.	6d., 8d.
Foreign Melons, each	3s., 6s.	Horseradish, per bundle.....	1s. 6d. to 2s. 6d.
French Cherries, per lb.	3s., 5s.	Shallots, per lb.	6d., 1s.
Oranges, per 100	4s., 10s.	Lettuce, Cos, each	6d., 8d.
Seville Oranges, do...	6s., 12s.	" Cabbage per doz.	2d., 3d.
Lemons 6s., 12s.		Endive, perscore ..	1s. 6d., 2s.
Almonds, per lb.....	2s., —	Celery, per bunch....	9d. to 1s. 6d.
Nuts, Filberts, per 100 lbs.	50s., 60s.	Radishes, Turnip, per dozen hunches	— to 6d.
" Cobs, ditto .. 60s., 70s.		Water Cresses, ditto ..	6d., 9d.
" Barcelona, per bushel.....	20s., 22s.	Small Salad, per punnet.....	2d., 3d.
Nuts, Brazil, ditto..	12s., 14s.	Artichokes, per lb....	—, 2d.
Walnuts, per 1000 ..	9s., 12s.	Asparagus, per 100	3s., 5s.
Chestnuts, per bushel	15s., 24s.	Sea-kale, per punnet	1s. 6d., 2s.
		Rhubarb, per bundle	3d., 6d.
		Cucumbers, each.....	6d to 1s. 6d.
		Mushrooms, per pot	1s. 6d., 2s.
		HERBS.	
		Basil, per bunch	4d. to 6d.
		Marjoram, per bunch	4d., 6d.
		Fennel, per bunch ..	2d., 3d.
		Savory, per bunch ..	2d., 3d.
		Thyme, per bunch ..	2d., 3d.
		Parsley, per bunch ..	2d., 3d.
		Mint, per bunch	2d., 4d.
		Green Mint	6d., 8d.

POULTRY.

Fowls during the past week have made great prices, which the demand during these days will probably keep up. After this month we may look for a larger supply, and a fall in value.

Large Fowls..	9s. 0d. to 10s. each.	Quails....	3s. 0d. to 0s. 6d. each.
Smaller do....	5s. 6d. to 6s., "	Leverets ..	4s. 0d. to 6s. 0d. "
Chickens..	3s. 0d. to 4s. 6d. "	Pigeons	9d. to 10d. "
Goslings.....	6s. to 7s. 0d. "	Rabbit....	1s. 5d. to 1s. 6d. "
Ducklings ..	3s. 6d. to 4s. 0d. "	Wild Ditto..	10d. to 0s. 11d. "
Guinea Fowl	0s. 0d. to 0s. 0d. "	Dottrell ..	0s. 0d. to 0s. 0d. "
Plover's Eggs, in bulk.....			3s. to 3s. 6d.

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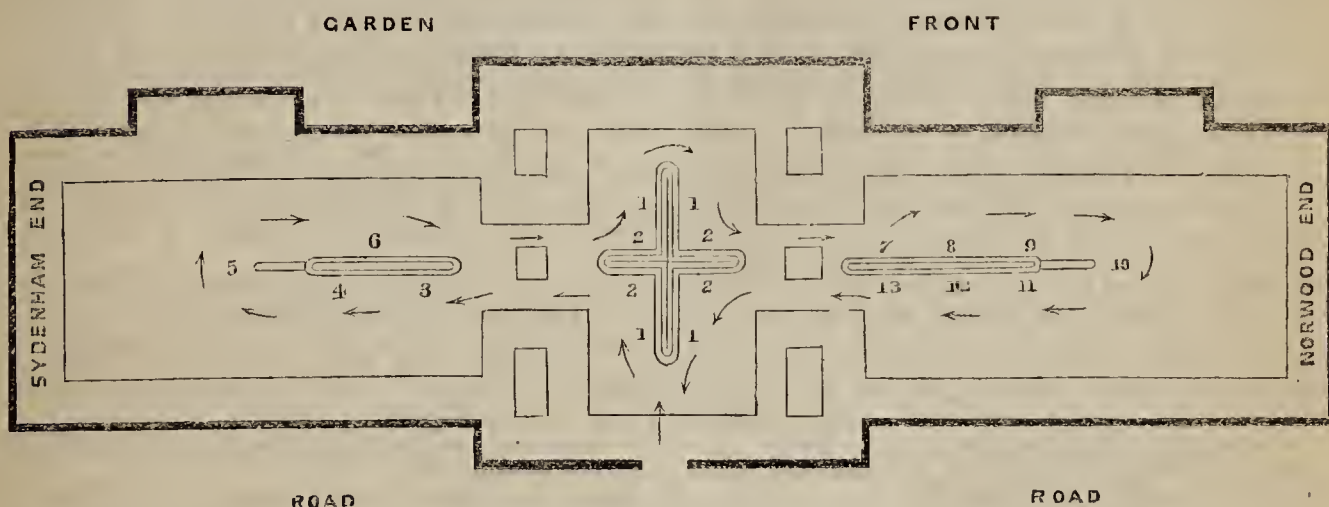
WEEKLY CALENDAR.

D M	D W	JUNE 3-9, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
3	TU	Tillus elongatus.	29.917-29.874	67-51	S.W.	.02	48 a 3	7 a 8	9 a 30	1	2 7	155
4	W	Tillus unifasciatus.	29.870-29.859	69-50	S.W.	—	48	8	10 32	2	1 57	156
5	TH	Thanasimus fornicarius.	29.893-29.876	76-54	S.W.	—	47	9	11 16	3	1 47	157
6	F	Opilus mollis.	29.809-29.693	86-53	S.	.1	47	10	11 45	4	1 36	158
7	S	Silpha reticulata.	29.881-29.826	71-47	S.W.	—	46	11	morn.	5	1 25	159
8	SUN	3 SUNDAY AFTER TRINITY.	29.941-29.929	72-46	S.W.	—	46	12	0 7	6	1 14	160
9	M	Phosphuga subrotundata.	30.019-29.991	66-42	S.W.	.18	45	13	0 23	7	1 2	161

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 69.7°, and 46.6°, respectively. The greatest heat, 90°, occurred on the 7th, in 1846; and the lowest cold, 35° on the 8th, in 1838. During the period 110 days were fine, and on 86 rain fell.

CRYSTAL PALACE.

FIRST GRAND FLOWER SHOW OF THE SEASON.



1. Stove and Greenhouse Plants.
2. Azaleas.
3. Orchids.
4. New Plants.
5. Tulips.

6. Cape Heaths, Cacti, and Rhododendrons.
7. New Azaleas and Calceolarias.
8. Fuchsias.
9. Miscellaneous.

10. Fruit.
11. Roses.
12. Pelargoniums.
13. Fancy Pelargoniums.

NOTE.—The Arrows denote the best route to see the Flowers.

AFTER the easterly winds ceased, on or about the 10th of May, the ideas of the coming event at Sydenham, on the 24th, began to work on the feelings; and every time I thought on this Show, very uncomfortable feelings crept over me,—the “glories of Chiswick” to be thus extinguished by one of her own cherished sons! I recollect when the honourable Member for Coventry was as celebrated at Chiswick for “scaling walls,” as he has been elsewhere for his ingenuity in rearing them.

Well, I received my free tickets without stint, in good time; met all the Judges at the London Bridge terminus, as the occupier of the Woolsack ought. At the next terminus, the first note you heard was, “Here is THE COTTAGE GARDENER; please make way for him first.” Then the accompanying plan of the show was put into his hands; and, after testing it with the Show itself, he determined on engraving it, faultless as it is,

for the use and guidance of his numerous readers, both the Editors, on the spot, being parties to the resolve.

But who was the author of this most useful guide to the Show? which every visitor should procure, and may obtain for “one penny only;” but “a penny saved is a penny earned,” and I have the permission of all concerned to save you that extra penny.

The honourable Member for Coventry left off speaking to a Duchess the moment it caught his eye in my hand. He told me it was the “joint production of Mr. Ayles and himself, and we might have it engraved, and welcome.” Mr. Ayles is the fortunate director of the “young ideas,” and of the younger collection of plants within the Palace, and a chip of the old block, which was squared at Chatsworth, and then moulded for the Crystal Palace. For the rest, you must know yourself, as well as you can be told, if ever you were there; if

not, boliovo me there never was a more gay or more promising collection got together in so short a time.

Before I begin my report of the exhibition let me explain the engraving. The whole Show was, and for the future will be, held in the nave between the crystal fountain on the west and the bronze fountain on the east, and nowhere else. At the west end, the Show begins with the fruit-stand, which slopes up from both sides, like the roof of a house, with a single shelf along the ridge, on which the Pine-apples are placed, and also the Grapes in pots; and there is a passage between the fruit and plant stands, which is not shown in the engraving. The next stand is very long, and is numbered on each side from 7 to 13, each number showing where a particular tribe or class of plants is placed. After that you see a square marked on the plan; that is the base of a colossal obelisk, which cuts off the view of the next stage, which is in the form of a cross, and is in the centre of the great transept; each of the longest arms of the cross, marked 1, 1, is twenty-two yards long; and the short arms, 2, 2, are twelve yards each in length. The large collections of Stove and Greenhouse plants, and the collections of Azaleas, occupy the cross, which is the best way of placing them to the best advantage of all the plans I have seen tried. Immediately behind the north arm of the cross stands an orchestra, which cuts off the view from the north end of the great transept, and confines it to the objects of the show—another most judicious arrangement. To the east of the cross is another square, which is the base of the Peace Monument, and which hides the view of the next long stand for plants, marked 3, 4, 5, 6,—figures referring to Orchids, New Plants, Cape Heaths, and Rhododendrons. 5, the extreme east end of the show, is a stage twenty yards long, with two sides, for Tulips, and the whole was covered with them. Between the end of the tulip-stand and the bronze fountain stood another orchestra, across the nave, hiding the view in that direction, purposely to concentrate your eyes and thoughts to the flowers—the great object of the day.

Here, then, we have two fundamental principles which ought to govern every gardening movement, from the cottage to the palace. The first is, that however small the garden may be, all the flowers, or beds, or trees, greenhouse, and all the rest in it, should be so arranged as *not to be seen at one view*. Instead of orchestras and peace monuments, however, a clump or group of shrubs must suffice to part what is "next and next;" and in the largest garden, one principal scene should not stand so far from the next principal scene as to tire one in the distance between them. Here, again, instead of orchestras and peace monuments, introduce *distinct scenes*, having no reference to the one you left behind; or to that which comes next to view; and it is in the originality, the appropriateness, and the taste with which these distinct and different scenes are conceived and carried out, rather than in the great features of a place, lies the secret why one place is so much admired above another of similar extent.

In anticipation of a good Rose season we shall begin with them first. *General Jacqueminot* was the greatest stranger there, and the best dark one. The *Geant* and *Paul Ricaut* have a distinguished rival in the General. *Chenedole*, *Coup d'Hebe*, *Paul Perras*, *Baron Prevost*, and *Paul Ricaut*, were the next best represented kinds. *La Marque*, and *Devoniensis*, *Eliza Sauvage*, *Gobault*, and *Adam*, were the best of their sections. *Louise Perrony*, in the way of *La Reine*, *Leon des Combats*, a dark perpetual, *Mauvais*, a Tea Rose, *Louis Buonaparte*, and *Blairii* No. 2, were the next most conspicuous Roses. The growers who contest the prizes are now so well known as to need no mention, and they are "above all praise." Mr. Paul's Roses were better grown than Mr. Lane's, but not so well

bloomed, the plants being a week or ten days behind their best; therefore, the first prize went to Mr. Lane, as usual, and Mr. Francis had very capital Roses, while Mr. Busby, Mr. Rolland, and all the other private growers were never better in the field.

FANCY PELARGONIUMS.—Here is where I can make the only suggestion for improving the present arrangement at the Crystal Palace Shows. I am certain, and I am backed by the best judgments in the lady peerage in saying, that you disturb the effect produced on the eye and mind, by either of the fancy or large Pelargoniums, when both are placed side by side, or in the same view. If you want to make the best of them, see the large ones first, then turn round the end of the stage and see the fancy ones next. *Jenny Lind*, *Delicatum*, and *Princess Maria Galitzin*, were the most telling, and *Electra* and *Lady Hume Campbell* the two highest-coloured.

Mr. Turner, of Slough, is the best grower of all the Geraniums, and he places them the best for effect. They were here in three rows, one above another; and this is how he placed them—*Richard Cobden*, lowest, *Celestial*, middle, and *Empress of France* on the top shelf. Second row—*Conspicuum*, bottom, *Mary Howitt* and *Electra*; and the next row began at the bottom with *Cloth of Silver*, then *Lady Hume Campbell*, and *Madame Sontag*.

His large PELARGONIUMS were thus staged, in threes from bottom to the top shelf. 1. *National*, *Arethusa*, and *Petruchio*. 2. *Wonderful*, *Governor General*, and *Lucy*. 3. *Una*, *Majestic*, and *Magnet*. 4. *Sanspareil*, *Basilisk*, and *Carlos*.

The last three are my own favourites of all that were there. Then the following—*Achilles*, purple; *Conqueror*, dark; *Rosamond*, one of the best, with a large white eye; *Ambassador*, rosy front; *Queen of May*, orange-scarlet; and *Magnet*. The best white ones were—*Pearl*, *Evelyn*, *Euphemia*, *Delicatum*, and *Una*. The last is, perhaps, the best white Pelargonium for amateurs with one greenhouse.

STOVE AND GREENHOUSE PLANTS.—The following were the principal plants for making up the large and small collections—Heaths, Boronias, Azaleas, Polygalas, Tetrathecas, Epacris, Eriostemons, Aphelæxis, Chorozemas, Dracophyllums, Adenandras, Pimelias, Leschenaultias, Clerodendrum Kæmpferi, Mitraria coccinea, Ixoras, Vincas, Hovea Celsii, Cissus, Stephanotis, Cyrtoceras reflexum, Dipladenia crassinoda, Hederoma tulipifera, Tropæolum Jarrattii, and two strangers, *Philotheca australis*, like a small-leaved Eriostemon, and that kind of flower being first cousins, if not brother and sisters, and an Hypericum-like plant, with good habit and yellow flowers, called *Albertia perfoliata*, which I take to be a smuggled name.

All the prizes here went as usual also, and Mr. Green was first with the finest AZALEAS in the world. *Criterion* was the best new Azalea there. I noted it last year with Mr. Ivery; it is a cross from *Exquisita*, and a great improvement on it. *Constantia rosca*, *Magnifica*, a half double; *Crassiflora*, from China; *General Williams*, *Magnifica*, white; *Vesta*, white; *Holdfordii*, *Frostii*, and *Beauty of Reigate*, were the next best of the newer Azaleas. *Frostii* being the nearest to a circle of them all.

HEATHS.—*Sindriana* was the best specimen of them there, from Mr. Cutbush, of Barnet, and his *Bergiana* was nearly as good. There was an improvement on *Albertus*, called *Albertus superba*, that and *Devoniana* were the newest. *Elegans*, *Depressa*, *Cavendishii*, *Jasminoïdes*, *Vestita*, and *Ventricosa*, *Propendens*, *Mutabilis*, and *Mundula*, were the most numerous and conspicuous.

FUCHSIAS.—There was one collection of six Fuchsias, the best grown of all which were yet exhibited—Five red ones and a white one; the former in the way of

Gracilis in growth; they were from Mr. Bousie, gardener to the Right Hon. H. Labouchere. *Macbeth* was ten feet high, like a Pillar Rose, and the bottom shoots flowering down below the pot. *Glory*, *Autocrat*, *Alpha*, *Othello*, and *Queen of Hanover*, were the others.

CALCEOLARIAS.—Mr. John Colo, of St. Albans, had two good bedding, shrubby kinds. *Primula*, a clear yellow, and *Grandis*, in the tint of the *Kentish Hero*. The herbaceous kinds were numerous and very good for the season.

CINERARIAS.—There were not many of them, nor very select. Of such as there were, *Optima* and *Sir Charles Napier*, in Mr. Turner's collection, were the two most telling.

PETUNIAS.—There were several distinct kinds, and some of them were very badly grown. They were grown under vines, or had had too much heat. It is related of the poet Burns, that he wished to knock a man down once, for hearing him (the man) sing one of his (Burn's) new songs in a wrong key, or to a bad tune. I could tell a somewhat like tale about a celebrated Petunia that was there which was outraged by bad growth.

LYCOPODIUMS, OR FERNS, were not numerous, nor select. July, or later, is the right time for them, when flowers begin to get scarce.

GLOXINIAS.—Three collections, and some very nice stand-up flowers among them, but nothing different to what have been described over and over again.

APHELEXIS, OR EVERLASTINGS.—A fine, separate collection of well-grown plants of them, besides what were used to make up mixed collections.

ANARYLLIS.—One large collection of *Hippeasters* from Mr. Hamp, who is an excellent grower of them.

ALMA GERANIUM.—Mr. Dennis had a dozen of his *Alma Geranium* there. I am not yet certain if *Alma* is really a good bedding sort. Have any of our readers grown a bed of it last year; and how did it look? How, also, did it stand the sun, the rain, and the wind? We cannot use shades over flower-beds, as florists do over miffy flowers; therefore, we must look to different "points" from them.

PANSIES.—There was a collection of cut blooms and one in pots.

TULIPS.—Three rows on one side of a stand, which is twenty yards long, and two rows on the other side of the stand,—just one hundred yards, if they were all in one row. I paid for seeing a larger collection of them in Manchester, this time 1832, and as they have been improving them ever since, this must have been the best collection of Tulips that was ever seen. At all events, there was nothing like it at the shows round London for the last five-and-twenty years, and that might account for the press and crowding round them.

RHODODENDRONS.—Three collections, and the tall yellow ones from Mr. Lane. The most telling *Rhododendron Dalhousianum* was in one of the general collections; it is not so good as *Edgworthii*; it comes in threes, and is yellowish-green. *Rhododendron cinnabarinum*, among a collection of new plants from Mr. Veitch, is the most curious of the Sikim race that has yet been exhibited. The flowers are tubular, and turn down like a *Cyrtanthus* flower.

SEEDLINGS.—The most remarkable new seedling was *Azalea amana grandiflora*, a cross, which has retained the "hose-in-hose" style of flower. It is said to be from the pollen of *Lateritia*; but the colour is much clearer than that parentage would indicate.

NEW ROSE.—Two plants of one called *Bacchus* were among the novelties. It is the best shaped of all the Roses, a hybrid perpetual; a seedling from *Geant des Batailles* apparently, but not quite of such a high colour; it was exhibited by Mr. Paul. *Bacchus* will make a stir among rose-growers.

MISCELLANEOUS NOVELTIES.—*Embothrium coccineum*, a crimson-flowered greenhouse plant; *Gleichenia microphylla*, a very pretty, drooping New Zealand Fern; *Ceanothus origanus*, with white flowers; a curious new species of *Brodiaea*; *Medularium pistum*, a short pine-apple-leaved-like plant; *Drosera dichotoma*, a very interesting curiosity, a "sundew," with a wiry stalk, six to nine inches long; it then divides into two stalks, and these again divide immediately into two more (dichotomous); the last forkings are covered with glandular hairs, the glands being the "dew." *Ouvirandra fenestralis*, the new skeleton water-plant from Madagascar, in a glass milk pan, with clean clear water and white pebbles under the plant and all over the soil, which "showed off" remarkably well; a *Huntleya fimbriata*, not much; and several others of no great account; a good-looking *Correa*, called *Cardinalis*; a good *Rhododendron Javanicum*; a collection of excellently-grown *Pitcher-plants*; two collections of tall *Cacti*, with a plant of *Egertonii* in each, and in one a *Crenatum*.

ORCHIDS were very numerous. The *Saccolabium*s were better coloured than usual, but the *Phalanopsis*s not so good. *Anguloa Clowesii*, with four large blooms, *Arpophyllum giganteum* with eight spikes, and *Barkeria spectabilis* with fourteen spikes, is a rare sight at a Show; but *Lalia flava* is not worthy of the family name; but there was a good plant of it there, with five upright, rigid spikes, twenty inches high, and about ten dull, yellow flowers on the top of each. *Dendrobium tortilis* was the only other plant noticeable from the general run of old Exhibition orchids. This *Dendrobium* has a most delicate-looking cupped labellum, or middle part, which is a light creamy tint; and the sepals, or side parts of the flower, are wavy, and light blush. A large nosegay of *Cantua dependens*, from Trentham. This was the handsomest flower at the Show, and flowers, at Trentham, in the conservatory, as freely as any other plant—on the starving principle. There was also a fine collection of *Anectochilus*.

Altogether, it was a good average Show for the month. There were very few inferior plants of any kind; but the greatest improvement of all was in the new arrangement. It is better than that either at Chiswick or at the Regent's Park, besides being in-doors.

I did not examine the Fruit very particularly; but the truth is, there is too much to look at for the short time we had before the public were admitted; and once the stream is let in, you must look to your toes, to keep from trampling on the ladies' dresses.

The *Grapes*, the *Peaches* and *Nectarines*, and the *Strauberrys* and *Cherries*, were very good-looking. There was nothing particular about the *Pine-apples*, of which there were forty-one placed along the top ridge, with an arch of pot *Grapes* at each end. Mr. Fleming's collection was in the place of honour—the first on the list or on the stage, and every one could thus see it. It consisted of three bunches of *Black Hamburgs*, two dishes of *Melons*, two of *Plums*, two of *Nectarines*, one of *Peaches*, and one of *Strauberrys*.

There were three or four competitors for *Cucumbers*, which were long enough for anything. *Essex Rival* and *Himalaya* were the names of the longest.

THE RAILWAY COLONNADE.—The most of the soft-wooded climbers, which I mentioned last autumn as doing so well in this part of the Palace, have been cut down by the frost. The whole length of the climber border is now planted, in one single line, with hardy *Azaleas* and Hybrid *Rhododendrons*, in four shades of colour, the yellow being the strongest colour. Every one of the shades is repeated at every five or six yards, and the effect is extremely good. Those pseudo-critics who object to planting flowers in long, straight rows, must suck their thumbs after seeing this one row.

IN THE PALACE itself, the climbers, and, indeed, all

the plants, grow very rapidly, but without the smallest symptoms of being "drawn."

The water in the crystal fountain was alive with the Water Lilies (*Nymphaeas*), and the crimson hybrid one was particularly striking. All along, near the sides, are pots full of the smallest plants (among the crystalworts (*Ricciaceae*), namely, *Riccia nutans*, which is merely big enough to make a green surface to the mould in the pots. There are now four crystal, vase-like fountains, a yard high, playing round the large crystal fountain. There is a fine specimen of the Norfolk Island Pine at each corner of the basin; and there are four *Dielytra spectabilis*, four feet by four feet, one at each of the four angles of circular enlargement at the centre of the basin. The circular marble beds, and the vases which surmount them round the water, were brimful with "furnishing plants" mossed. The whole is as rich as anything you can conceive in gardening.

Out-of-doors the fountains played in the afternoon most merrily, but not all of them in the lower lakes. The "first display of Grand Fountains and Cascades" is fixed for the 18th of June (Waterloo Day), when all the world and water nymphs will be there to see the grand sight.

The bedding-out was about three parts finished; the chain patterns were full of Tulips in bloom—a fine sight, but not so much so as last year, because the "roots" are now mixed; last season each kind was planted by itself. If you were to ask me what is effect? the best answer I could give you would be—the difference between a bed of mixed Tulips and another bed where each kind of Tulip is planted separately. But here they burnt their fingers with the Tulip.

The only real fault I could see, inside or out, is, that at the very bottom of the first flight of steps opposite the great transept, the second bed on the right hand side *drowns* the effect of every other bed right and left of it, and of all the beds in the centre of the garden. It would hardly be worth while to notice this bed, were it not to explain a principle on which THE COTTAGE GARDENER insists implicitly in all plantings of flower-beds; that principle is, to avoid placing the strongest colours in the centre of groups of colours. But, you say, the bed at the Crystal Palace is not in the centre, but on one side. How, then, does it apply to your objection? That is exactly what I want to tell you. The garden being here strictly on the Geometric plan, there is not a bed, or a rose, or a fountain, or a statue, or a tree, or a shrub, or of any other thing, to be seen, or found, on the right-hand side, without its match on the left. The particular bed on the right, which destroys all effect in that part of the garden, has its match on the left. The mistake must, therefore, be in the planting of it; and so it is. The bed is full of Double Yellow Tulips, making a very strong mass of yellow. The eye will go to, and *rest on, that bed*, from any part you are at. One consequence of the eye resting on the very centre of a group is to diminish, apparently, the size of that group; and one consequence of the eye resting *on one side* of a regular, or geometric, group or figure, is to make it apparently irregular—what artists call "a pig with one ear." If the match-bed on the left was equally strong in yellow, the eye could not "rest" on either of them exclusively; the sight or view would be balanced; and it is on the principle of balancing the sight that the charms of geometric gardening are founded, and none other.

There is a vast improvement in the plan of planting the centre part of the terrace this year. Last year, all the oblong beds at the bottom were planted with *Tom Thumb*, with a line of blue *Larkspurs* in the middle of each; and the circular beds were all of *Scarlet Verbenas*, and therefore "lost," as far as effect is concerned. I have every plant in all these beds, and every distance from

plant to plant, in my book; and, looking at them now on my table, I must say I never saw anything better done than that planting. D. BEATON.

RANDOM GLEANINGS DURING A FEW DAYS IN SCOTLAND.

(Continued from page 146.)

DUNKELD HOUSE, OR COTTAGE.

THIS is the unpretending residence of the Duke of Athol. It is close to the town of Dunkeld, once the capital of Caledonia. It is about fourteen miles from Perth. A branch-line goes from Stanloy, on the Perth and Aberdeen line, to Birnam station, close to the town, at the base of the mountain so celebrated in the drama of Macbeth. A train from Perth to Dunkeld, and back again, is advertised for Saturday afternoons, during the summer, at 1s. for third-class fare. What a privilege to the cooped-up artisan, in connection with the afternoon holiday movement! Thousands have visited Dunkeld—these will now be increased a hundred-fold. Seen from the passes to the north, the town, with its bridge over the silver Tay, the ruined cathedral, and the surrounding scenery, present a magnificent appearance. Going from Perth, you drop upon it quite suddenly. The first idea that suggested itself to my mind being one of veneration for the prudential wisdom of those who selected such a warm, verdant, sheltered spot for this Highland chieftain, surrounded by an amphitheatre of hills, once rugged and sterile enough, but now like the lofty Craig-y-Barns to the north, covered, unless on the perpendicular rocks, with luxuriant forest timber; these rocks peeping out at times, lending a romantic grandeur to the scene. The great planter Duke not only thus laid the foundation for a large annual revenue, as several saw-mills are continually employed in cutting up the timber from these alpine heights; not only gave an impulse to planting poor and elevated mountain-land, which has been worthily followed by many Scottish proprietors; but imparted to wild and barren scenery such a clothed and picturesque appearance, that men of the olden times could scarcely be able to recognise their old familiar haunts again.

Even in the early days of May, these hills of the Duke, and his neighbour, Sir Wm. Stewart, were looking beautiful in the gleaming spots exposed to the light of a clear sun—and in the deep, sombre shade of glades and recesses; in the vast variety of tints in the opened and opening buds; and, again, in the regularity with which they were mingled together in one place; while, in another place, these separate tints or colours would be massed separately in irregular groups—Larch fringing into masses of Scotch Fir, and these again into Beech, &c. I could not help thinking that these hills might give us a hint in the planting and management of pleasure-grounds and flower gardens. What the peculiar lesson is which such planting might teach us, I will not venture to infer, further than to say, that something might be gained, were we convinced that no stereotyped, fashionable mode of grouping colours contains within itself *all* the essential elements of beauty and refined satisfaction, and that the man who delights in the mixed shrubbery and the mixed flower border, though not following the, at present, popular "*dory*," may yet be thoroughly orthodox in his tastes and aspirations. The diversity of systems, even in one place, would lend a charm from variety and contrast.

The large, fertile kitchen-garden is situated a little to the north of the mansion, separated from it by a lawn, and mostly concealed by groups of evergreens. Placed on a brae, or bank, facing the south, it catches every ray of sunshine. What surprised us most was, that Peas,

Lettuce, Beans, and fruit blossom, were about as forward as in exposed places in Hertfordshire. A favourable position will thus often counterbalance the unfavourableness of several degrees of northern latitude. The winters are, no doubt, colder, but the summer days are longer; and in the eastern and midland districts of the north of our island the atmosphere is clearer and drier. Hence I have found, by correspondence, that many things unassisted could be gathered as early near Inverness as in this neighbourhood; and every year the newspapers record early productions of vegetables and fruit in Edinburgh and Perth before we can gather similar things here in the open air.

The hothouses are placed near the bottom of the slope, are chiefly on the old lean-to principle, are heated by flues, and glazed with small squares, with rather open laps, so that the soot and smoke from the chimneys had found a resting-place on the foliage of Vines showing heavy crops. I recollect, when working among Vines so situated, it was hardly possible escaping having the face and hands of a blackamoor. The large squares, and carrying the smoke to a distance by improved modes of heating, will banish this annoyance.

Here the Peaches, as at Scone, were trained along the back-wall, and on trellises across the house, with a low, upright trellis in front. The spaces between the cross trellises were supplied with dwarf trees of Peaches, Apricots, &c., in pots, and also with early crops of Lettuces, and other salading. In such late houses I have seen *Bishop's Dwarf* Pea brought forward very early; and also French Beans in pots, and planted out. The Pines were planted out in Pine stoves, the bottom-heat supplied by a flue; though it was also possible to throw in some bottom-heat, by means of a dung lining beneath the back-path. Several of the houses had this convenience, the manure being thrown in and taken out by the doorway. There can be no question of the utility of such fermenting matter in starting Vines, &c.;—though using it as an assistant in forcing, after the buds are burst, involves a great amount of labour and watchful care. The latter of which will be of great future importance to the young gardener who successfully passes through such an ordeal.

Strawberries were growing in great luxuriance, some in pots, others in oblong boxes, three or four feet in length, and wide enough to hold two plants across. For late Strawberries in houses, and for amateurs who cannot give close attention, the system is a good one, as the plants do not suffer so easily from too much or too little water, as when in separate pots and saucers. Even in early forcing, when the fruit is set, I frequently place the plant with its pot into narrow boxes used for holding bedding-stuff; and as the roots run through into rich soil at the bottom of the box, and the sides of it so far shade the pot from the sun, the labour of attendance is so far abridged, and extra strength given to the swelling of the fruit.

To the north-west of the kitchen-garden, on an elevated plateau, a massive pile of stables and offices has been erected, and a rough, rugged bank in front is now being levelled and smoothed, so as to bring it within the dressed and ornamental ground. The lawn at the back of the mansion, and in front, facing the Tay—the queen of British streams—is of the richest green.

The short *approach* to the house, and the landing square of gravel, exhibit good taste in the graceful and easy curves, and first-rate management and skill in their construction. The approach is of good width, pretty well rounded, and almost as smooth and firm as a slab of marble. The carriage had passed to the house, and it required sharp eyes to discover a trace of wheels or foot-marks. Mr. Henderson, the enthusiastic gardener, a worthy scion from the old stock at Delvine, told us that he excavated the soil to a great depth, be-

cause it was very good, and filled the space with rough boulders and large stones, because they were more plentiful than such good soil. On such a foundation repeated layers of gravel were put, terminating with material rather fine, and these layers were repeatedly rolled, when very wet, with a very heavy roller. A smooth, firm surface has thus been obtained, and all that was necessary to keep it in such fine order was an occasional switch with a light broom, and a pass over with a light roller. Much of the same principle seems to have been followed as was adopted by Mr. Beaton at Shrubland.

Near to the house, and surrounded by the dressed grounds, is the old cathedral, massive in its ruins, though wanting its roof; one end, the choir, being transformed into a parish church, without at all interfering with the gothic Norman style of the building. Antiquaries associate the building with the days of the Pictish Kings. Many of its bishops, as Gavin Douglas and William Sinclair, were renowned for literature and warlike bravery. Here the Cameronians nobly defended themselves in the reign of the Prince of Orange, as graphically described by Macaulay. The ground close to the walls being used for many generations as a place of sepulture, the soil had risen considerably against the walls. Mr. Henderson has managed to get that ground lowered, leaving the groves as before, to the great advantage of the building. Much tact must have been shown in surmounting prejudices, for generally the last resting-place of the departed is held sacred and inviolate, in proportion to the antiquity of the race, and the seclusion in which they had entrenched themselves.

Near to the cathedral stand the two famous Larches, first planted in this country in 1738, and which, in 1851, at three feet from the ground, measured fifteen feet five inches in circumference, were ninety-eight feet six inches in height, and contained four hundred and twelve cubic feet of timber. A tape-line verified these dimensions; and, on measuring the circumference of one near the ground, where the base swells out, we found it to be twenty-four feet six inches in circumference. The diseases and casualties attending the Larch have lately occupied a great share of public attention. Poor, alpine positions have been recommended as a remedy. These fine specimens—now becoming bonnet-headed from age—grow in seemingly rich, alluvial soil, in a low position, near the banks of the river. Splendid specimens may be seen at Kenwood, in rich and sheltered positions. A new disease—the *blister*—destroying the bark in large patches, and the wood beneath it, is attacking the Larch in many places. Insects, squirrels, poverty from thick planting, are variously assigned as the cause. An inveterate obstacle now to the rearing of young plantations is the extra superabundance of rabbits—an evil which can only be remedied when gentlemen will have less pleasure in shooting than in looking on fine, young plantations.

PATENT BESOM.—Much of the lawn here, as in most large places, is mowed with a horse-machine; but still there are many places to which such a machine cannot have access. We all know how such places are cleaned up. The width of a swath is swept from side to side by the common birch-broom, and then the lines so formed are swept up separately, or a light broom is fixed to a long handle, and standing in the centre of two swaths, the operator, sweeping right and left, clears the space of two swaths at once. Now, the common broom is too clumsy and heavy for the first purpose, and the lighter broom is apt to come off its handle, and though tied out somewhat in peacock-tail fashion, it is apt, especially when wet, to bulge together like a common broom; thus doing less work, and greatly increasing the labour to the operator. Mr. Henderson is taking out a patent which will apply to all these

brooms, and more especially to those which are intended to clear right and left the centre of single or double swaths. The head is a double plate of light iron, in a curved form; and the short or long handle is just as easily and securely fixed as you would fix a handle to an iron rake. The birch can be placed as thin as you like—as much spread out fan-shape as you like, to take in a large space; the whole is exceedingly light; there is no danger of one twig getting out of its place; and, when worn out, fresh birch can be again fixed as securely in a shorter time than I write it. It would not be right to say more until I hear the patent is secured. Given the presence of birch, whalebone, or any other suitable material for brooms; and a light, firm, most serviceable besom can be made in a few minutes. I have little faith in fortune-making from patents; but I wish Mr. Henderson every success, as his invention, especially for cross-sweeping, is not more ingenious than simple and efficient.

I have thus lingered about the garden, but that is a small matter to the tourists, who love to explore the scenery—seen from many points of the fifty miles of walks, and thirty miles of rides, and from the summit of the picturesque Craig-y-Barns itself. We had only a few hours to spare, and were privileged to have Mr. Henderson as our guide and eicerone. Leaving the grounds around the cathedral, we traversed a long green walk on the banks of the Tay, passing fine specimens of Silver Fir, Beeches, and other trees,—huge Rhododendrons, that sow themselves plentifully, with interesting wild plants and Ferns peeping from the banks.

Glancing across the river to a cascade of the Braan, and the abode of Neil Gow, and the meadow in which he composed those tunes that have stirred hearts and heels, now we cross the Tay in a ferry-boat, rowed by a lady that has been surnamed Grace Darling, wend our way over moor and fell, with Heather and Bilberries for our near neighbours, and the ever-varying scenery of the hills as our more distant friends. Anon we enter thick, shady woods, notice huge anthills in open spaces by the walk sides, look into the Cave of Ossian—a most uncomfortable hole even for the most ascetic anachorite, letting alone the royal race of kings. By-and-by, we hear a slight rumbling sound, and ere long stand at the door of a building; it is opened, and we look upon a painting of Ossian tuning his pipe,—*presto*, a spring is touched, the painting disappears,—a noise as of thunder meets your ears, and foaming, gurgling, hissing, and showering its spray, the cataract cascade of the Braan bursts upon your gaze, reflected by many mirrors inside the building. This building, termed the Hermitage, the Hall of Ossian, &c., is placed on a rock, forty feet above the fall; and so judiciously has the position been chosen, that you have no idea of the nearness of the river, until thus dislosed from the interior of the building. What would not Sir Joseph Paxton give for such a cataract in some wild spot at Sydenham? At a short distance, an arch is thrown over the river; and beneath it the water is as placid as it is fierce and tumultuous at the cascade.

About a mile farther up is the rumbling bridge, where the bed of the river is filled, as at the hermitage, with huge boulders of rock and stone, over which the river foams and thunders; but though vastly striking, it did not appear so imposingly grand as at the hermitage; though the noise and the spray, as the waters pour through the narrow chasm, must be exceedingly commanding in the time of a spate, when the river is full.

Our time being limited, and having breakfasted early, we were glad to find our way back to Dunkeld, and to squat down at the hospitable table of John Anderson, the much respected landlord of the splendid castellated hotel, inn, and tap-room, at Birnam, built by Sir W. Stewart, whose beautiful specimens of the Pine tribe, and

collection of fine trees I much regretted being unable to see.—But trains will wait for nobody. R. Fish.

FLORISTS' FLOWERS.

THE CALCEOLARIA.

THE long-wished-for habit of this charming flower has at length been attained. What was wanted was the large-spotted, or self-coloured flowers, produced on plants with a shrubby habit. The herbaceous varieties were all, or nearly all, so very tender, and apt to die off the first or second year after being raised, that the growers became perfectly wearied of purchasing them; so much so, that of late years all prudent cultivators have betook themselves to raising them from seed every year, and thus treating them as mere biennials, or even annuals. By judicious impregnation of the shrubby varieties with the pollen of the best herbaceous ones, there is now in the nurseries a new and more hardy breed, with flowers as large and vividly-coloured as the male parent, with the half-woody stems of the female. These woody-stemmed varieties are much more desirable, not only on account of their being more hardy, but also because they are much easier of increase by cuttings.

The best way to obtain a considerable number of cuttings is (as soon as the plants have done blooming), to plant them out in the garden borders and stop the leading shoots. They will then send forth a great number of shoots, which shoots, as soon as the lower portion has become a little hardened, or approaching to woodiness, should be slipped off, leaving a few to produce a second crop. These cuttings should have the lower leaves carefully trimmed off, and then be inserted in a cutting pot, with an inch of pure white sand on the top of the light compost. Place them in a cold frame, and shade them closely from the sun for a week or two, watering them occasionally when the sand becomes dry. In three weeks they ought to be rooted; then pot them off into small pots, replacing them in the frame, and shading again till they become established; then set them in the open air, on a bed of coal-ashes, till the pots are filled with roots; they should then be repotted into larger pots, and placed again on the ash-bed, and before the frost sets in remove them into the greenhouse, placing them pretty close to the glass; they will then be nice, stocky plants, which will, with proper attention to watering, repotting in the spring, smoking with tobacco frequently to destroy their great enemies, the Green Fly, form fine, flowering plants, fit either for greenhouse or conservatory decoration, or to plant out in beds in the flower-garden.

TWELVE SELECTED NEW VARIETIES.

1. *Albina* (Cole*).—Good habit; colour a rich orange, covered thickly with brown spots.
2. *Eclipse* (Rollison).—Large trusses of brilliant crimson flowers, much richer than *Sultan* and of a better form; habit dwarf, neat, and compact.
3. *Goldfinder* (Cole).—Good trusses, large flowers, and of a rich, clear golden-yellow colour; habit excellent. A good, desirable variety.
4. *Harlequin* (Cole).—Dense trusses, with large flower; ground-colour orange, fantastically and densely spotted with dark brown; good habit.
5. *Hawk* (Cole).—Large trusses; flowers of a deep, rich orange, covered with maroon spots. Free grower and abundant bloomer.
6. *King of Sardinia* (Cole).—Large trusses, with

* All these varieties with this name attached to them were raised by Mr. Cole, a nurseryman at St. Albans, and were successfully exhibited by him at the Royal Botanic Society's Exhibition in June last year. They were much admired, and are of excellent habit, and well adapted either for pot-culture or bedding-out.

flowers of a rich self-erimson; good habit, and most abundant bloomer. Excellent for pots or for bedding-out.

7. *Lemonade* (Cole).—Dense trusses of large flowers, of a beautiful clear lemon colour; habit good.

8. *Orange Boven* (Cole).—Trusses large and dense; colour a singular shade of rich orange-brown; habit very dwarf. A good bedding variety, and also very showy in pots.

9. *Orange Perfection*.—Trusses very large; flowers of a fine form, and rich orange colour. A fine variety for the conservatory.

10. *Pallida* (Cole).—Trusses dense; flowers well formed, and of a clear canary colour; habit dwarf and good. A very pleasing and distinct variety.

11. *Pilot* (Cole).—Trusses very dense; flowers of a rich crimson-brown. A most abundant bloomer, and very distinct.

12. *Vezzosa* (Introduced from the Continent).—Trusses large; flowers large also; ground-colour a bright orange, with crimson blotches. Very striking and distinct.

TWELVE SELECTED OLDER VARIETIES.

1. *Ajax*.—Trusses very large; habit dwarf and compact; colour a beautiful golden-yellow, with a brown blotch in the centre of each flower. A showy and beautiful variety.

2. *Beauty of Montreal*.—Trusses very large; an abundant bloomer, and good habit; colour a rich, shaded crimson.

3. *Brilliant*.—Trusses large; flowers large also, and of a rich bronzy-red colour. A distinct variety.

4. *Conqueror*.—Flowers well formed, and very large; an abundant bloomer; colour the richest crimson imaginable. Vastly superior to *Sultan*. I saw this variety beautifully bloomed, very lately, at E. Smith, Esq.'s, Fir Dale, near Sheffield.

5. *Crimson King*.—As its name imparts, this variety is a rich, dark crimson; habit dwarf and robust; flowers large, and of a good form.

6. *Golden Cap*.—Large flowers, and well formed; the lower part of a rich dark maroon; the upper part or cap of a deep yellow. A distinct variety.

7. *Magnificent*.—Rich crimson lower limb, with yellow crown; flowers large and finely formed.

8. *Model*.—Very dense, dwarf habit; flowers a rich brown, shading off to orange-yellow at the edges. A distinct and beautiful variety.

9. *Purity*.—Singular in colour, which is a pure paper white. The plant branches close to the ground, hence it is well adapted to bedding-out, but the soil should be rather poor and very sandy.

10. *Surprise*.—Curious in colour, namely, a bright orange-erimson; good habit, and distinct.

11. *Vivid*.—A variety of a dwarf, compact habit; crimson ground-colour, with golden crown; very showy and distinct.

12. *Wellington Hero*.—Trusses large and compact, and of a golden-yellow colour; habit dwarf and compact, and a most abundant bloomer. T. APPLEBY.

(To be continued.)

CALCEOLARIAS AND CHEIRANTHUS MARSHALLII.

As my last article was devoted to floral matters, I again resume the subject, confining my remarks to such things as the present season has given rise to.

In the first place, I may mention that *Calceolarius* have long been an especial favourite with me in the bedding-out line, more especially the hard-wooded or shrubby ones. The herbaceous ones, though more showy at certain times, and coming earlier into bloom,

are not without their advantages, but they lack that endless succession which makes the shrubby ones so valuable; and though some of the intermediate ones (by combining a portion of the good qualities of both) are valuable in their way, it is seldom that we see such a regular succession of bloom as we would wish to see during the summer months; while the liability there is in such plants dying off entirely is a sad drawback to their other good qualities; and after such varieties have been three or four years in cultivation they become sickly and difficult to propagate from—in fact, they cease to thrive. Witness the few cases in which *Calceolaria Kentish Hero* is found in a good state, while *Sultan* is falling fast into a similar consumptive habit. As a remedy to this, seedlings are of great avail, but this cannot well be depended on for all the purposes that constitute a bedding-plant. Its true colours cannot be recognized until it has flowered, and after that we may often date the insidious disease which eventually carries it off.

As a remedy to this, there has been a praiseworthy attempt to improve the shrubby species, which in some cases has been done, while in others it has been attended with a debilitated constitution, or, what is more often the case, a cross with the herbaceous varieties has resulted in a good, useful sort, about mid-way between the parents in constitutional habit or vigour. These promise to be useful accessories to the flower-garden, by being more sturdy in habit than the other, but are, nevertheless, more tender than the really shrubby kinds, whose numbers are getting fewer every day, as the direction of breeders is more in the way of securing fine individual flowers than a good succession of them; however, we must be satisfied with these until public opinion calls aloud for more hardy varieties.

Two years ago, I raised some seedlings from *C. Sultan*, which very much resembled that popular variety in habit, and some of them in colour. Some of them, however, had tinges of yellow in them, and were pretty, useful flowers; but my object in mentioning these here is, only to say that cuttings from them endured the hardships of winter in a cold frame, with no more protection than is usually given to *Cauliflowers*; and, as they were planted in the open ground with only an old light over them, they acquired that hardy, robust character which we look for in vain in potted plants. In the same temporary sheltering-place were other varieties, all stuck in very closely, the whole being put in towards the end of October; but by the first or second week in March they had grown so well as to indicate that a want of room would soon be wanted; I, therefore, thinned them, at that time planting these out in the same description of place. Some that were not so thinned speedily ran up in the spindling way common to everything in an overcrowded condition; while those which were left in the position they occupied, but were thinned, were nice, bushy plants by the first week of April, when I planted a part of them out into the beds they were to occupy during the summer. I may say, that I covered them up at night with Laurel and other boughs for some time, but I did not see that the plants suffered any way by the early "turning out;" on the contrary, the plants grew and did well. But this was not "turning out" delicate potted plants, but well-hardened ones, that could be removed to their final resting place with large balls of earth at their roots, and the top well inured to the cold. Now, though I am no advocate for early planting-out in many things, *Calceolarias* form an exception, especially such as have been wintered in the way described; and I can assure the amateur, that the preservation of them in winter is a much easier job than is often thought of. A sheltered corner, open to the south, with a frame and lights, is all

that is wanted, and they do not need so much covering up in frosty weather; for out of about two thousand cuttings, which I put in last autumn this way, I do not believe more than five per cent failed to make good plants in April, and some of them had no other covering at any time than an old light. The only regret was, that I put them in too thick. Some of them I thinned out early in March, planting them under glass in like manner; and some of those which remained where they stood the winter were so much grown by the first week in April, that I planted many of them out at once into the beds they are to occupy the summer, covering them up a few frosty nights with boughs, &c.

Now, though I am not certain but they would have been as large plants by the middle of June, had they remained under glass till the first of May especially as there were some useful showers then, still, I am certain they would not have been better; and if dry weather had set in during the early part of May, the planting of *Calceolarias* would have been an unfortunate affair. As it is, they were establishing themselves by that time, and ready to make a start. And as I am not acquainted with any plant which lifts with a ball of earth so well as the *Calceolaria*, I have no hesitation in recommending the amateur never to pot it when there is a chance to grow it without. I may add, that I did put in several large pans of cuttings the same time in autumn as I put in those out-doors, which were kept in a cold frame all the winter, and covered up from frost; these I had planted out at the same time as the others were thinned, but the best plants were those which stood the winter, and were thinned as above in March; and I have no doubt but they will prove the best to the last,—having never been indulged with a pot, or anything likely to coddle them into a delicate condition.

While on this subject, I may mention that one of the most useful plants for occupying the beds in winter, as well as flowering in the latter end of May, is *Cheiranthus Marshallii*, of which there are two varieties, one a deep orange, the other a clear primrose. These plants being of compact growth, very hardy, and blooming with a profusion of dense corymbs, present a more gay appearance than anything I am acquainted with, *Alyssum Saxatile* excepted, which, however, is before them, and partly on the wane when they show themselves. I wish we had other coloured flowering plants equal to these two in beauty and general effect. And as something must be done to secure an early bloom in summer, these plants cannot be too strongly recommended for that purpose; and by the time this paper reaches the reader there will be an abundance of cuttings of them; which, by being put in some cold frame, or other place where they can have a little shade for the first week or two, strike root freely enough, and generally thrive well; the primrose-coloured *Cheiranthus*, especially, strikes very freely, and transplants with good balls at all times, while its densely-grown, dwarf, bushy habit, makes it look well even in mid-winter, when there is but little to look upon that is at all ornamental. The only drawback to this and other similar plants is, that by the time it has done flowering the season is so far advanced that other plants then put in cannot well overtake their neighbours; presuming them to have been planted early in May; but much may be done by forwarding the plants in other places.

Supposing it were intended to have a bed of *Ageratum*, *Scarlet Geranium*, or *Heliotrope*, where these *Cheiranthuses* have been flowering; well, then, where these latter are no longer ornamental, I would take them up, and remove part of the soil, replacing it by fresh, and the plants above ought to have been each in separate small pots early in the season, and, when well established, *i.e.*, when the pots are thoroughly

filled with roots, turn them out into a bed in some reserved place, giving them plenty of leaf-mould to grow in; and if this be done in the early part of May they will have formed abundance of small roots into this leafy soil, which will adhere to them when they are taken up to plant into their final resting-place; there is certainly some labour in this, and those who object to it may partially attain the same object by planting the *Cheiranthus* thin in the first instance, and at the proper time planting out the future plants amongst them.

Verbenas will do this way, as they can be trained over the place occupied by the *Cheiranthus* when it is removed; and they can be kept under it while in flower, but they must be liberally supplied with liquid-manure, if the season prove a dry one; otherwise, the ground, by having a double crop upon it, cannot be expected to mature the second one early.

Much, however, may be done by arranging so as to have a robust-growing plant to follow this *Cheiranthus*, or other similar plant, which it would be prudent to plant. In that way, I sometimes plant *Heliotrope*, *Gaillardia*, *Salvia*, or some rank-growing *Verbena*, as I cannot dispense with this useful, early, summer flower, and have several beds of it, but I would not by any means advise *Calceolaria* to follow this enchanting plant, without some considerable addition of soil, or manure, which cannot always be had, and it is rarely *Calceolarias* become too strong by having a rich soil to grow in. So that when necessity compels the amateur to adopt the somewhat desultory process of planting one crop in the midst of the preceding one, let the second one be of that robust, coarse-growing character, which it is necessary to curb, and by so doing it is likely the result may be satisfactory.

J. ROBSON.

NOTES FROM PARIS.

At the time I wrote the article which is published in your number for May 13th, what I stated respecting the weather here was quite correct; but a few days make a great change, and my remarks no longer hold good when sent to press. Now, you shall hear.

Up to the very end of April, beginning from January, and continuing downwards, we had wonderfully fine weather, too fine, it must be allowed, for since the first of this month (May), I can only count one day which may be called tolerably warm. The first fortnight was marked by rain and cold winds. After an interval of twenty-four hours we have again torrents of rain. On the 18th and 19th the wind was excessive, and within the last two days we have had a great deal of rain, accompanied with thunder and lightning. The latest accounts, however, are not unfavourable as respects the crops, and after a perceptible rise since the month set in, in the price of grain, the last Marseilles report mentions a considerable fall.

A recent trip of about twenty miles into the country has enabled me to compare my notes with a personal inspection. The result, and the conclusions, so far as they can be hazarded at present, are cheering and satisfactory.

People have got over their fears for the Potato crops, and a great extent of ground has been planted this year. It is believed that fruit, especially Pears and Apples, will be more abundant than last summer.

Already, forced Cherries, Strawberries, and Grapes, are somewhat plentiful. In another week, if the weather improves, the out-door crops of Strawberries will be nearly ready for market. Green Peas, on borders, are now in season. I am only speaking of the environs of Paris, but from the south we have frequent supplies of the earlier fruits, as well as vegetables, as those just named. They are, however, still high-priced, especially in the shops of the *fournisseurs* and the leading *restaurateurs*.

The advancement of agriculture is still one of the leading subjects of public discussion, and for at least another month the great gathering in and around the *Palais de l'Industrie* will absorb all attention. The necessary preparations have

been making for several weeks, in order to have suitable accommodation for the live stock, implements, machines, and products, which in a few days more will have arrived from all parts of France and every other country in Europe.

As I am not unacquainted with those editorial difficulties which often make the insertion of an article in a certain number a matter of impossibility, it may not be too much to say, that before these notes leave the press-room the great Exhibition in question, including that of the Horticultural Society, will have taken place, and the extent of its influence determined. Yet I cannot but think that most of your readers may be interested in learning what has been done on the part of France, and how her invitation has been accepted.

The Industrial Palace is to be occupied chiefly with the implements, plants, and farm produce, together with live stock, as cows and oxen. What is called the *grande nef* of the Palais has been transformed by the managers of the Horticultural Society into an ornamental garden, which will form an agreeable promenade for the visitors. This part of the large building will be singularly beautiful and effective, as it has been arranged with much taste, and no expense will be spared to make a brilliant display.

The bovines will be arranged in compartments, so as to admit of an easy inspection. These compartments are near the extremities of the Palais under the galleries, which will be occupied with implements and farm products. Numerous sheds and stalls have been erected outside the building, for the reception of sheep, pigs, and such of the larger cattle as cannot be accommodated inside. A great number of neat inclosures have been put up for the poultry, of which a grand turn out is expected. Upwards of a hundred cows and oxen have been entered for England; Scotland has an entry of at least two hundred in the same class; and it is said that the Durham breeds, sent from the other side of the Tweed, are more numerous than those which have been entered for England. From Austria, Denmark, Belgium, and Saxony, will be sent many sorts and types which will be new to most of our breeders in the west. It is not improbable, however, that the famed English breeds, as the Durhams, Devons, and Herefords, together with those from the west Highlands and Ayrshire, will take the lead here, as they have done before.

About four hundred head of sheep from England and Scotland have been entered. More than 1,500 in all, it is expected, will be exhibited by the several countries. Fully 2000 implements and machines will be shown, including fifty steam engines for different purposes. There will be fanning and reaping machines, but these, for obvious reasons, are not to be tested till the harvest. I understand that in this class there will be several new inventions which have not been shown before. Arrangements have been made by the government for testing and trying all the machines and implements of any importance. A large field has been allotted for this purpose. It is situated near the grounds of Neuilly on the banks of the Seine.

Every effort has been made by the government to make this exhibition all that could be wished. The cattle will be fed at the expense of the State as long as the Exhibition lasts (about a fortnight). Whatever may be necessary, whether in men or materials, for trying the machines, will also be furnished in the same liberal manner. This Exhibition, according to the first announcement, was to open on the 29th of the month of May, but now I learn that it will be opened the day after to-morrow (the 23rd). The programme has just been posted. It is about eight feet long by three feet wide. The first class comprises all the best English, Scotch, and Irish breeds. It is stated that the show is to close on the 7th of June, but it may very probably last a week or ten days longer. P. F. KEIR.

MELVILLE'S WHITE MAY BROCOLI.

We have received from Mr. Melville, gardener to the Earl of Rosebery, Dalmeny Park, near Edinburgh, specimens of a remarkably fine late white Brocoli, which promises to be a valuable acquisition to our gardens. We all know the difficulty there is in finding, late in the season, Brocoli which is at once hardy and of a pure white colour. In the London markets we have had, during the spring, supplies

of Brocoli from Cornwall, there being nothing to be had from the extensive garden grounds round the metropolis, except the old *Brimstone* or *Portsmouth* variety; and for the last month the supply from Cornwall has been completely exhausted. The specimens we received from Mr. Melville, on the 10th of May, were large, each weighing, when trimmed ready for the pot, 1½ lbs.; they were perfectly white, and had all the appearance of Cauliflower, and when cooked were very tender, nicely flavoured, and eating as tender as Marrow. This appears to us to be totally distinct from any other variety which has come under our notice, and possesses many properties which highly recommend it, among which are—*A dwarf habit of growth*, the plant sent us being only about a foot in height. *Self-protecting*—in this respect it resembles Knight's, by the leaves closing over the head, and not only most completely and effectually enclosing them from the effects of frost, but also keeping them from the action of light, and thereby preserving their very fine colour. When first we examined them, we thought there was no head at all, till after searching for it among the leaves we found such as we have described above. This variety is quite distinct from *Dilcock's Bride*, or any other we have seen. Mr. Melville says, "I had *Elletson's New Emperor* last year; it was called a dwarf, but my variety does not grow much more than half its height. The winter of 1854 was a very trying one among Brocoli with us in Scotland. The half of the *Emperor* gave way with me, while in my own variety I had not an injured one among them." A pure white Brocoli, a pound-and-three-quarters in weight, and produced in Scotland in the middle of May, is a thing our southern friends should look out after.

HARDY CREEPERS AND OTHER PLANTS SUITABLE FOR A LOW WALL.

BERBERIS DARWINI.—This is perfectly hardy with me, and blooms abundantly on a wall, west aspect, situation dry, but fully exposed. It also seems to stand out very well; but I have not had it flower with me yet in that way.

ESCALLONIA MACRANTHA.—This is, perhaps, the handsomest foliage of all our evergreens; and though its flowers are not remarkable, it is a great acquisition to our shrubberies, and is invaluable in covering a low wall. It grows with me in all situations.

JASMINUM NUDIFLORUM.—This has been so often described that I need not refer to it here, further than say, that all that has been said in its favour is true. It grows freely, and blooms equally so in January.

STAUNTONIA LATIFOLIA.—This has bloomed with me this year, and is well worthy a place where a considerable space has to be quickly covered. Flowers brown and pale green or yellow, in clusters at the axils of the leaves; foliage liable to get discoloured in winter; still, it is a useful creeper, and worthy a place everywhere.

GEONOTHUS AZUREUS.—This is, perhaps, after all, the best of its class; certainly it flowers more freely than *C. papillosus*; but its appearance, when not in flower, is not so good as that variety and some others. One or more of the blue flowering ones is indispensable; and nothing can exceed the gay appearance a large plant of it has when well covered with bloom.

CORONILLA GLAUCA.—This seems to do best on a west aspect, as some plants I have flower beautifully; and more than one stood the winter of 1854-55. It is certainly hardier than the *Citisus*, to whom it is related, and is eminently suited to a low wall.

VERONICA.—These have not done so well with me against walls as in the open ground, and even there the old *V. Lindleyana* seems to bloom best. As an evergreen, it is much behind the *Escallonia macrantha* in appearance of foliage, but is, nevertheless, useful as a variety.

MYRTLE.—This much-neglected plant is certainly worthy a place in many cases where a low wall is to be covered in a sheltered situation, where its glossy, green leaves, and beautiful white flowers, present a gay appearance for a long time. Severe winters, however, injure it, so that we do not see large plants of it everywhere; but it sometimes attains the size of a large fruit-tree against a wall, and is then an object worthy of notice. It thrives best on a limestone soil. —J. ROBSON. (To be continued.)

CALYSTEGIA PUBESCENS.

(DOWNY BEARBIND.)



This plant belongs to the Natural Order *Bindweeds* (*Convolvulacæ*), and to *Pentandria Monogynia* of Linnæus.

"Raised from a small portion of the root found in a dead Pæony root, in Box No. 22, from Mr. Fortune's mission in China. The box was sent from Shanghai, and stated to contain a plant of the double *Convolvulus*, which was supposed to be dead when received at the Garden in June, 1844.

"This curious plant approaches very nearly to the *C. sepium*, or larger Bindweed of our English hedges, from which it differs in having firmer and smaller leaves, much narrower bracts, and a fine pubescence spread over every part. It is the first plant of its order that has been mentioned as producing double flowers. They are about as large as those of a double *Anemone*, but the petals are arranged with the irregularity of the *Rose*; they are of a pale very delicate pink, and remain expanded for some days. The calyx is quite unchanged. The exterior petals are very much lacerated and irregular in form; those next the centre are narrow, drawn together into a kind of cone; the next central are completely concealed by those without them, and diminish till they are mere scales, analogous to those which may be found in the first buds which burst in the spring. Not a trace can be found of stamens or pistil.

"It is probably quite hardy if planted in a dry situation. It requires a rich, loamy soil, and is easily increased by the roots. The roots very much resemble those of the common bindweed (*Calystegia sepium*). It flowers freely in July and August. It is a very handsome climbing plant, with large double flowers, which are produced freely."—*Horticultural Society's Journal*.

REPORT ON A TRIAL OF THE DUTCH METHOD OF FORCING APRICOTS. By Mr. W. Tatter, Gardener in the Royal Gardens of Herenhausen, near Hanover.

(Translated from the *Allgemeine Garten Zeitung*, of Berlin.)

I MORE by the publication of these experiments to render a service to German gardeners, in recording the details of the process.

For the first experiment, a wooden pit (represented in the engraving) was built, and in the beginning of March an Apricot-tree was planted in the box (*a*) prepared for it. The soil made use of consisted of a mixture in equal parts of rotten wood and garden loam; and I have found that this mixture is peculiarly suitable for the Apricot, especially during the period of forcing. The tree taken for forcing had been, from the earliest age, transplanted every two years, and had thus formed copious fibrous roots; in a word, it is essential that such a tree should have its mass of roots in the best possible condition, in order that it may bear transplanting without injury.

The great object was, now, to produce good fruiting wood: for this purpose, at the end of May, all superfluous or badly placed shoots were stopped before they had completed their growth, and removed in this state, an operation which enabled the obtaining an equal distribution of wood. The tree now threw its whole strength into the remaining branches. The strong shoots, and in general all those which appeared unfit for bearing, were then shortened to a third of their length. The result was the production of a great number of strong, healthy, fruiting spurs, which had shot out with great vigour from the eyes of the shortened branches. Again, many of these spurs were yet sacrificed to the pruning-knife; for the tree would have been unable to bring to perfect maturity so great a mass of bearing wood, notwithstanding several waterings of liquid-manure with which it was strengthened. This treatment appeared to agree well with the tree, as it remained perfectly free from insects.

The young shoots remained unfastened, because, when they are not disturbed nor bent, they grow more vigorously, and attain greater perfection. However slight the bending of a branch may be, it is still in so far injurious to its growth, for the sap, as is well known, always endeavours to rise. By the curvature of a branch, a hindrance is opposed to the circulation of its sap, its maturity is hastened before it has attained so great a degree of perfection as if it had never been bent.

In the beginning of November the tree had already lost its leaves, a sure sign of the maturity of the wood, and I must confess that the excellent bearing wood it had formed was such as is seldom seen. The tree was now perfectly ready for forcing, and this is the most important part of the operation, as upon it depends directly the future results.

The severe cold which came on in December rendered it necessary to put the lights on the pit to keep the branches from freezing. The roots had already been covered with leaves in November.

On the 5th of January the pit was prepared for forcing. Before putting in the hot dung I inserted a wooden partition (*g*), about nine inches below the espalier (*f*) for the purpose of packing the dung underneath it, and for the reception of a lining of oiled paper on each side which should protect the tree from the strong effluvia of the dung. This partition is not in the Dutch pits, yet I would strongly recommend it as most useful. The Dutch only plant their tree at the time of commencing the forcing. The tree in question has been planted in the spring, and we had so far departed from the Dutch plan in the expectation of a more certain success.

The roots of the tree were slightly disturbed in order that the later formed wood-buds might not follow too closely on the flower-buds, it being necessary that these should expand before the others have grown vigorous; the tree was thus slightly weakened at the commencement of the forcing.

Nothing more was now cut from the tree, as the summer training had rendered this unnecessary, only what little dead wood there may have been was removed. The stem and branches were washed with clean water, in order to

destroy any insects there may have been. The main branches only and such shoots as would otherwise have touched the glass were fastened down.

After the pit had been filled from behind, through an opening left for the purpose, with fresh horse-dung up to the wooden partition, the whole was surrounded to the thickness of three feet with a bed of leaves and dung.

The forcing commenced on the 6th of January, with a maximum temperature by day of $+5^{\circ}$ Reaum. (43° Fahr.), the minimum being $+1^{\circ}$ Reaum. (35° Fahr.) By night the maximum was $+4^{\circ}$ Reaum. (41° Fahr.), the minimum $+1^{\circ}$ Reaum. (35° Fahr.). In the sunshine, however, the temperature rose to 3° (7° Fahr.) more.

The box (e 1) which encloses that in which the roots were planted was completely filled with dung and leaves, in order to maintain a moderate degree of warmth around the roots and induce them to produce fibres. Much depends on the tree having produced abundance of these fibres before the buds are developed, as the latter draw the greater part of their nourishment from them. Throughout the autumn the roots had been kept very dry, on which account a watering with warm water at the temperature of 28° (95°) had become necessary.

With Apricots it is particularly necessary to keep the temperature as equable as possible, although in the night time it may be lowered. The diminution of temperature in night-time is indeed essential, as experience has shown it to be extremely beneficial. The tree would in the night without light under a high temperature be drawn up, would send out long weak shoots, and consequently bear small and bad fruit. On dark days a diminution of temperature is for the same reason necessary.

After a lapse of eight days the temperature was raised. In order to give a general view of the raising and diminution of the temperature, I subjoin to this report the table of temperature under which the tree was cultivated. This table was put up in the pit, and everything connected with the operation was regularly entered.

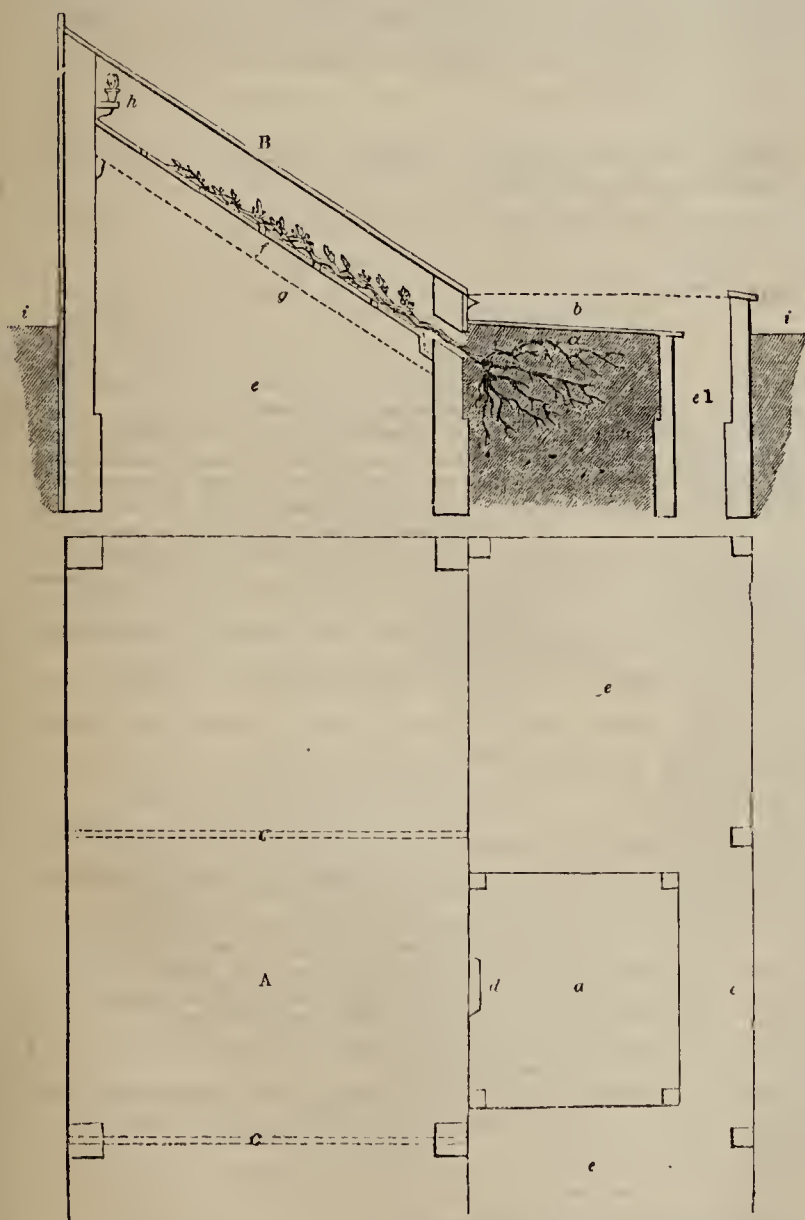
Air is very beneficial to the Apricot-tree, consequently as much as possible was given to it. During the night the ventilators of the pit were kept open in order to reduce the temperature, and also to remove any vapour from the dung which might have penetrated. But in order to stop too great an influx of air, the ventilating openings were covered with mats.

The pit was covered during the night more or less, according to circumstances, in order to keep up a regularity of growth, rather below than above. The beds of dung round the pit were several times raised or changed; this operation was regulated by the external and internal temperature.

Under this treatment the buds developed with great vigour. An examination of the roots showed that they had formed a great number of new fibres. The tree perfected its flowers about the 8th of February. The pit was now no longer covered at night, the temperature lowered, all moisture kept carefully away, and as much air given as the outer temperature admitted of. When the sun shone it was slightly shaded from 11 to 2 o'clock; but sunshine occurred so rarely that the pit had only once to be actually shaded. On the other hand, the rain often obliged me to cover the pit with a second set of lights, in order to keep out the damp.

After the lapse of a week it was observed that several flowers, in the centre of the tree, had set; this was taken as an indication for raising the temperature, in order to induce a more rapid growth of the fruit. It is very important to observe accurately the setting of the fruits, for if they do not then receive sufficient warmth, and they only remain stationary a few days, their early fall may very easily follow. They must rapidly throw off the remains of their flowers, which is effected by a rapid growth, for, if these continue long about the young fruit, the latter will, indubitably, rot. In the open air we may often observe this fact, on the Cherry, for instance, which will bloom splendidly, but from this same cause, not bear fruit; the warmth necessary for their proper setting is wanting. In forcing, the gardener has in his own power the means of regulating the heat necessary for the flower.

The pit was now shaded from the bright mid-day's sun. A gentle sprinkling on sunny days proved of great use, and as it was given very early in the day, the sun removed all damp before night. This watering was, however, not given till after the remains of the flowers had all fallen. The vegetation in the pit was vigorous, the leaves opened out satisfactorily, and the young fruits grew on happily. The few insects which appeared were carefully removed; some caterpillars of the *Tortrix Bergmanniana*, which had rolled themselves up in the young leaves, were destroyed. A few aphides were found at the extremities of the young shoots, about the time when the stones were forming. On that



EXPLANATION OF THE PLATE OF THE DUTCH WOODEN APRICOT PIT.

A plan; B. section; a, box of earth for planting the tree in; b, covering to keep the water from the lights from penetrating to the roots; c, moveable sashes; d, moveable board to be taken out to let the steam into the pit; e and e 1, receptacles for leaves and hot dung to give the necessary heat for the roots and for the pit; f, Espalier of laths; g, wooden partition; h, shelf for strawberry-pots, &c.; i, ground level.

evening, and the following morning, they were strongly fumigated with tobacco, which still remains one of the surest means of destroying these insects. The red spider did not show itself at all.

Towards the 8th of March the stoppage of growth in the shoots, as well as the fruit, indicated the period of forming the stones; the temperature was lowered, in order to give the stone the necessary rest to come to perfection. Too much forcing at this period is very prejudicial. With too much heat the fruit does not know whether to form stone or flesh, it is placed in a position which compels it to produce both at once, the consequence of which is a small dry fruit.

During this period of rest in the growth of the fruit, the superfluous wood was removed, and the longest shoots stopped, but with much caution, in order not to disturb the forcing of the tree. Whilst the stones are forming the fruits require much nourishment, which must be copiously supplied to them. Shade and air must not be neglected, and the latter must more especially be attended to; and if it be given early in the morning, not many insects will show themselves. On the 1st of April another watering was given, an examination of the soil having proved it to be indispensable. After the formation of the stones a watering is very necessary, before that period it is injurious, as causing readily the fall of the fruit. No fruit were thinned out, the object of the experiment being to ascertain what quantity the tree, under this treatment, could be made to bring to perfection.

At the end of the fourth week, the stones being fully formed, the temperature was again raised and maintained till the maturity of the fruit. On sunny days, after the pit had been sprinkled with water (at about half after 3 p.m.), the lights were closed, thus producing a warm, damp, close atmosphere, which contributed much to the ample swelling of the fruits.

At the period of colouring of the fruit the pit was kept dry, so also no moisture was admitted during the ripening; neither was it any longer shaded, but as much air was given as the outer temperature allowed of, this contributing essentially to the flavour of the fruit as well as to a natural and good colouring. The luxuriance and healthiness of the foliage gave good promise of highly-flavoured fruit. Its maintenance is important, as without good foliage there never can be well-flavoured fruit.

As soon as the fruit was all gathered, the lights were, on a dull day, all taken from the pit, and the tree completely exposed to the action of the open air. Next winter I purpose again to force it, commencing from the 1st of December. The wood is sound and vigorous, and my exertions are now directed to its early ripening.

The result of the above experiment was the bringing to perfection 290 well-grown and highly-flavoured fruit, of which the first ripened on the 27th of May. The variety forced was the small Orange-Apricot.—*Horticultural Society's Journal*.

TABLE OF THE TEMPERATURE AND COURSE OF VEGETATION DURING THE FORCING OF A SMALL ORANGE-APRICOT TREE.

Date (1854).	Temperature by day.		by night.		State of the Tree.	Remarks.
	Max.	Min.	Max.	Min.		
Jan. 6—14	43°	34°	41°	34°	Total rest in the buds.	January 7.—Tree watered with eight pots
Jan. 14—21 ..	50	41	43	36	The buds began to stir perceptibly about the 16th, especially in the upper shoots.	of water at 28° Reaum.
Jan. 21—28 ..	59	50	50	41	The swelling of the buds progresses; it is more marked in the upper half of the tree, which is three or four days in advance of the lower half.	In order that the pit might not cool down too much, the 16th January the external dung-bed was raised; the tree was also mulched.
Jan. 28 to } Feb. 8 }	63	59	54	45	As the budding advances the inequality disappears, the swelling proceeds regularly, and flowers expand on the 4th.	To restore regularity in the shoot, the lower part of the pit only was covered.
Feb. 8—15	54	50	50	45	In flower from the 8th to the 15th. The wood-buds open out, those at the end bursting most vigorously. First fruit set on the 12th.	Jan. 23rd.—Air given to the foot of the tree in order to draw off the superfluous heat.
Feb. 15 to } March 8 }	68	63	54	50	Impregnation and setting proceed satisfactorily. Wood-buds shoot out. Leaves slowly unfold, more rapidly on the other than the lower shoots.	Jan. 26.—The external dung-bed was raised.
March 8—31 ..	59	54	54	50	Petals fall about the 18th February, and young fruits swell. They throw off the calyxes about the 2nd March.	Jan. 28.—New fibres had formed on the roots.
April 1 to } June 6 }	68	63	59	54	Fruits the size of a hazel-nut. The stoppage in their growth, and in the shoots, indicates the period of stoning. The leaves large and strong, and shade the fruit; towards the 27th the stones begin to harden.	When it snowed or rained during flowering, the pit was covered.
					The increase of the fruit and the development of second shoots prove that stones are formed. The fruits now grow rapidly, and towards the 29th April the greenish colour changes to a yellowish-white.	Feb. 24.—Heat of the external bed increased to push forward the flowers.
					The first fruits ripen on the 27th May.	Feb. 27.—Lower external bed renewed to restore regularity in shooting.
						Insects immediately destroyed. 8th and 9th March fumigated with tobacco.
						March 20.—The superfluous wood is removed and the longest shoots shortened.
						March 30.—Heat of external bed increased, in order to raise the temperature.
						April 1.—Tree again watered.
						Besides such fruits as fell off none were removed.
						In the course of the summer, 290 well-grown fruits were brought to maturity.

UPON EXHIBITING THE VERBENA.

As your valuable Journal is alike open to the claims of the florist as to those which more immediately concern the modern flower-garden (according to the general acception of the term), claiming an affinity with the former, I solicit a small portion of your space for the discussion of the above

subject, with a view of eliciting your opinion, or that of some other competent authority. It is evident that our various Horticultural Societies are undecided as to the manner in which the Verbena ought to be exhibited, for whilst there is a generally received rule

governing these Societies respecting the exhibition of other florist-flowers, in this instance there is none, as a glance at their schedules will abundantly prove—we find some patronizing one truss of a kind, others requiring three, or more. I think every lover of this general favourite will agree with me, when I state that here is a flower that, like many others, has advanced from an almost insignificant botanical species to almost perfection (according to the florist's idea, certainly not a whit behind others which this personage claims). I say, the time has arrived that there ought to be one definite rule patronized by all societies. I think, if we reason by analogy, we shall find that the *Verbena* ought not to be exhibited in any other form than that of *single* trusses; thus—Suppose we showed the *Auricula*, or *Polyanthus* flowers, which are comprised of a number of pips similar to the *Verbena*, I fancy there is not a society that would require more than one truss of a kind to be exhibited in a collection. Again, when we exhibit florist flowers, the object is principally to show their form to the greatest possible advantage; indeed, this is the first rule in judging. Our object is not to exhibit bouquets. As form is the principal characteristic of a superior flower, how is it possible to judge this quality aright when huddled together in bunches? I have experienced the difficulty myself, when judging stands made after this absurd principle or fashion. There is only one advantage attending it, which is the following:—It matters little about having a few indifferent back petaled flowers, for it is most probable they will never be discovered if the centres are well up.

The *Verbena* is, deservedly, a public favourite; for when we consider the combination of colours, its graceful habit, period of flowering, and adaptability for in-door or out-door cultivation, whether seen under all the various positions in which it is placed in the modern flower-garden, or as an object of the florist's skill (when shown as it ought to be) under all these aspects, I say it is, deservedly, a favourite, and amply repays any trouble bestowed upon it, consequently worthy to be judged by some definite rule when subjected to the scrutiny of the censor. I have been favoured with the schedule of the Chelmsford Horticultural Society, which, as it is of national character, we reasonably expect to see the choicest products of the vegetable or floral world exhibited to the greatest possible advantage. In this schedule we find the best twenty-four *Verbenas*, not more than *five* trusses. If Floral Societies require *Verbena* bouquets, I hold this *huddled* principle to be perfectly admissible; but it ought to be specified to that effect. On the contrary, if we desire to see all the floral qualities of this flower shown to the greatest advantage, I believe we can see it in no other form but in stands composed of single trusses. I trust you will favour your numerous readers with your opinion. In conclusion, I beg to state the above remarks apply only to *cut* flowers.—S. AMEY, *Saling Grove*.

CHILDREN'S GARDENS.

NO. VI.

In examining the prize lists of our country Flower Shows, I have often remarked that those who carry off the palm in the leading classes, as *Roses*, *Dahlias*, and *Carnations*, do not compete in others of easier or less costly cultivation. It is well that it is so; as, in consequence, we all have a chance of competing—a chance which I desire to extend to my *protégés*, by reminding my readers that among these, so-called, minor prizes there are many well adapted for youthful competition. I unhesitatingly assert that there is no such mystery in the production of first-rate blooms of many a favourite flower as to forbid success. Attention alone is required; and youth is not so fickle or careless as some philosophers would wish us to believe.

Experience has proved to me that the main ingredient of success consists in growing a number of plants sufficient to supply, in full perfection at one time, the dozen or half-dozen blooms required. Now, space being wanting in your son's plot, where is it to be found? Suppose *Asters* to be the prize in view. I am bold enough to propose that you hand over your own bed of them to your son's care, with a proviso, that as it is in a prominent position, and is only lent to him for a precise purpose, you are to have the

arrangement of the colours, &c. If the boy prepares, plants, weeds, and waters the said bed, he will fairly earn his prize, and have “a weakness” for *Asters* all the rest of his life.

The growth of flowers in pots may be turned to useful account if the young are encouraged to keep their room adorned with a succession of plants in bloom. The forethought and attention required will supply employment for mind and body during many an hour which the limited space of their garden would leave unoccupied, while the practice itself would initiate them in the method of growing good specimen plants. A strong root of *Heartsease*, neatly pegged round a good-sized pot, will do admirably for the purpose, and last a long while in bloom. *Violets*, *Lily of the Valley*, *Mignonette*, and a hundred others, are available.

My remarks have hitherto referred exclusively to floriculture; but it does sometimes happen, that as soon as a boy is put in possession of a plot, his mind revels in dreams of mustard and cress, and other things more adapted to please the palate than to charm the eye. Well, do not be annoyed; I myself cannot praise his taste, but I nevertheless hope well of him, regarding it as an evidence of a natural bent for the *utilities* of life. If he is persevering, and successful in raising his small salads, I venture to predicate that he will be an industrious business man. Let not his choice be regarded with disapproval, but rather endeavour to feel the same interest in his *Radishes* as if they were *Roses*. It may be true that your table is supplied with far better vegetables than your son can produce; yet I doubt if he would admit so much; for his will have, to him, a flavour none others can possess. I have never eaten nicer radishes than the hot, stringy ones I grew when a boy; and I well remember my vexation when, one dinner-time, I found that the cook had mingled my half-dozen kidney beans with the general boiling; adding, by-the-by, ten-fold to the offence by declaring that certain tough specimens complained of were mine.—E

GRAFTING GERANIUMS.

AFTER reading Mr. Fish's article on the above, I thought I would try my hand at it; but I found it a very difficult job. Nevertheless, believing the theory to be practicable, and being enthusiastic, I practised on about a dozen plants—and, I believe, some of them a dozen times over—and only got one out of all the lot to take; but now, at the time I write, it is a most beautiful object, well repaying all the trouble. It is the *White Ivy Leaf* upon *Smith's Emperor*, at the back of a greenhouse, wall grafted at the top, and allowed to hang down, its most natural habit of growth. The *Scarlet* variety would look better; but I have not seen it.

I had a most beautiful *variegated sport* of that large *Scarlet* just at the time Mr. Beaton was giving advice about striking such things. The moment they appeared, following that advice, I cut it off directly, and struck it; but it grew green, to my great disappointment. I believe I was too soon upon it.

Would you oblige me with a list of twelve hardy biennial and perennial seeds, to sow now for the borders next year? I have plenty of common ones; I want some that are *extra choice*.—W. S.

QUERIES AND ANSWERS.

GARDENING.

WHITE KEEPING ONION.—EARLY ROUND POTATOES.

“I should feel obliged if you would inform me, through the medium of your paper, which *White Onion* is the best for keeping.—[*White Globe*.] I should also be glad if you would tell me which is the earliest of the three following potatoes—*Early Shaw*, *Early Oxford*, and *Forty-fold*.—[*Early Oxford*.] Should you be acquainted with any variety of round *Potato* earlier than the above mentioned, I should be pleased if you would mention it.—[*Fox's Early Delight*.]—CLERICUS.”

WINTERING BEDDING PLANTS IN A COLD FRAME.

"Mr. Fish would confer a favour upon many of your readers by giving a few details as to the mode of striking and preserving bedding plants in a cold frame through the winter. Is the frame raised on a stage above the ground, or how is the damp prevented rising and rotting the cuttings off? Is no heat ever applied?—J. S. Jox."

[Mr. Fish will, most likely, attend to this matter before the autumn is over, though he can hardly add more to what he has already advanced. To prevent misapprehension, however, it is right to state, that he approves of any mode of heating, if it can be obtained. He merely instances facts to show that without any artificial heat many, nay, most bedding plants can be preserved during winter, merely by covering and by giving all the air possible in favourable weather. He advocates no raised stage, but, whether a pit or frame be used, he advocates a raised site on which to build the one or place the other, that site being some twelve inches high above the surrounding ground, and that ground sloping downwards from the site all round, so that all rain, &c., may run from the site or platform. Then the next thing is to make that site, and the ground for two or three feet round it, as waterproof as may be. Two modes present themselves,—concreting two or three inches thick, or spreading over it a layer of coal tar, from one-eighth to one-quarter-of-an-inch thick, and then covering with as much fine pebbly gravel as will roll in. If the latter is used, the work should be done two months before the place is wanted; ten weeks would be better. There will be little damp that will ever come through it. On this, place several inches of rough rubble as drainage, and between that elevated drainage and the external ground there must be frequent openings, to allow all excess of moisture a free outlet. We would place some rough gravel on the top of the rubble, or rough coal ashes, and on these pots of cuttings could be placed, or, as he prefers, the proper soil should be put on and the cuttings be inserted in rows. Mr. Scobie used old hotbeds without a tithe of these preparations, but when given, they multiply the chances of success.]

HEATING TWO HOUSES FROM ONE BOILER.

"I am about to heat two houses with one boiler, and am anxious to have the arrangement required for shutting off the hot water from either of them as effectual and simple as possible; and I find that when the flow-pipe only is stopped by a valve, the return-pipe gets quite warm by contact, I suppose. Now, I will tell you what I thought of doing, and perhaps you will be kind enough to say if you see any objections to my plan. I will connect the boiler by the flow-and-return pipes, with a small supply-cistern, and have a flow-and-return pipe for each of the houses from this cistern instead of from the boiler direct. This supply-cistern will, of course, have a moveable lid, and when it is required to withhold heat from either of the houses, it will only be necessary to put a plug in both the flow-and-return pipes of that house. The cistern will be inside one of the houses, and about four feet from the boiler."

[If properly set, we never had much trouble with the heating of a return-pipe. However, you could have a valve on each a short distance from the boiler. Your proposed plan will answer if the pipes are nearly level throughout; but we can see no advantage that the cistern, as placed, will give to the circulation. If the supply-cistern was elevated two or three feet above the boiler, and a flow-pipe taken into it, and flow-pipes taken from it, for the two houses to be stopped at pleasure, the weight of the water would cause a more rapid circulation; but in this case, the return-pipes must enter at the bottom of the boiler, and there be stopped, if necessary, though we have never felt any necessity for it. Very probably you would like your own plan best. You would find the plugs, &c., easier managed on the other plan.]

GIVING MOISTURE TO THE LEAVES OF FORCED VINES.—CULTURE OF THE ORANGE TRIBE.

"In forcing Vines, is it the best practice to water the paths so as to cause a sufficient moisture, or to syringe the Vines

freely? If to syringe the Vines is best, at what period of their growth ought I to have commenced it, and at what time should I have left off using it? I ought to have stated that my Vines are in a greenhouse, and have broke very well, and are showing a nice lot of fruit, but not yet in blossom.

"All my plants I have turned out, with the exception of some Camellias and Azaleas, with a little fire heat on by night.

If you would favour me with the culture of the *Orange* and *Lemon*, it would be thankfully received?—T. T."

[First-rate Grapes are produced which are freely syringed once or twice a-day, from the starting of the Vines until the fruit begins to change colour, except when the Vines are in bloom. First-rate Grapes are also produced that never see a syringe at all,—the atmosphere of the house being kept sufficiently moist. See what was said of Mr. Halliday's system the other week, who supplies the necessary moisture by a pool of water on the top of his flues. An intelligent gardener will suit his operations to his circumstances. Where many things are grown in the same house, it might not be advisable to keep the atmosphere so moist as would just suit Vines breaking their buds, for instance; and in this case, if the Vines are placed longitudinally along the front of the house they could be syringed or moistened frequently, without syringing other things. Again, in many places the water is so pure that no sediment is ever left. In other cases, though seemingly limpid, it would leave a sediment that would destroy the appearance of the finest fruit. Our own practice—having to make much of each house—is to damp the Vines until they break, and after that to give them no more of the syringe; except, perhaps, a good lathering just after the fruit is fairly set, to clear off all the remains of flowers, &c.; but we, generally, in preference to this, give the Vines a good shaking. We find no difficulty in supplying a sufficiency of moisture from syringing the pathways, the stages, and, above all, having evaporating pans over the heating medium. In all cases worthy the name of forcing, this latter plan is the most effective for securing a due amount of moisture in the atmosphere.

As you have turned out your plants from the greenhouse, you may keep the Vines while in bloom, and a short time afterwards, about 65° at night; and when swelling 60° will be quite enough, with a rise of 10° or 15° from sunshine. This will just suit your Camellias and Azaleas when making their wood.

The culture of the *Orange* tribe has been given at great length in previous volumes. If you wish to grow and fruit them in-doors, you may treat them much as you are doing the Camellias, only give them more light, and harden them off by degrees. If to stand out-of-doors in summer, the sooner you can place them out safely the better. So that they may make their wood and bloom out of doors.]

CAMELLIA LEAVES SPOTTING.

"I cut some Camellias hard in, and they are making young wood very nicely, but I find the young leaves to get all over with black spots. Is it too much moisture at the root and overhead that is the cause of it? They are growing under the shade of the Vines, temperature about 60° at night, with a rise through the day. I repotted them, after they had started a little, with a mixture of loam and peat, and a little silver sand.—T. H."

[Is there any rusty iron in your roof? If so, the drop from it would affect the leaves as you say. Are there any spots or scars in the glass? If so, daub them with a piece of putty or size; and give air so as to have the foliage dry before the sun strikes the plants. We see nothing wrong in your treatment; of course, excess of moisture, either at top or bottom, must be guarded against.]

DRIVING ANTS AWAY.—YOUNG FIGS TURNING YELLOW.

"I shall feel obliged if you could inform me how to get rid of Ants which have got into a greenhouse. I have tried sulphur without effect.

"I may likewise mention that in Figs, growing in pots in a house, the younger and smaller portions of the fruit are

turning yellow and evidently decaying. Can this have proceeded from over-watering? The larger fruit, as well as foliage, look healthy. Pipes from a dung pit are laid into the house, and the smell was at one time rather strong. Could this have been the cause? It does not, however, seem to have hurt some young vines considerably nearer the mouth of the pipes than the fig, so that I should hardly think it could be.—Y."

[Lime-water poured freely into the nests and burrows of ants will cause them to flit, if it does not kill them. The most effectual remedy is to mix arsenic into a solution of sugar and water, which they will devour greedily, but care must be taken of the saucer that no other animal gets to it. I used to cover the saucer with a slate and a stone on the top of it, leaving a couple of pegs between the saucer and slate to let the ants in freely. By using honey and water you may trap them in myriads, as the honey holds their feet like bird-lime.]

Young Figs will not stand so much ammonia, &c., as a young, vigorous vine. If well drained, the excess of watering could hardly be the reason. If clogged up, the stagnant water would do it, and so would letting the plant be dry. We incline to think that in your case the young fruit are robbed by the older ones. Figs in pots generally show more fruit than they are able to mature.]

GLAZING WITH HARTLEY'S ROUGH PLATE GLASS.

"In glazing with 'Hartley's Rough Plate,' is more than ordinary care required to prevent leakage? I have recently covered the roof of a small greenhouse with it (in sheets, 19 in. by 12 in.) on strong rafters, after the fashion of Mr. Rivers, &c.; but leaks will keep making their appearance along the rafters; although, on a close examination outside, we can scarcely perceive a place in either paint or putty."

"I should mention, that the glass is more or less crooked; and, consequently, the laps are by no means close fitting, and hold a great deal of water; and this, I think, settling in the ends against the putty, must gradually undermine it. If I am right,—what is to be done to remedy the evil? Must I fill up the laps?—W. ARNER VARNHAM."

[Hartley's Patent Glass requires no more care than other glass to prevent leakage. In your case, the very open and crooked laps must be the cause. If the laps were water-tight, you would have condensed moisture falling inside, unless you attended to air-giving, which the open laps now furnish. To attain your object, we would recommend putting up the laps, with the exception of a space in the centre of each square, say one-and-half or two inches wide. This will let air in and water out, more especially if the putty is slightly rounded inside from the sash-bar to the centre of the square of glass.]

THINNING FLOWERS OF DENDROBIUM DENSIFLORUM. — FRENCH RHODODENDRONS NOT BLOOMING.

"E. M. has a small but good plant of *Dendrobium densiflorum*, which is now putting up fourteen rises. Should all these be allowed to grow, or should some be rubbed off?"

"She has also a very good collection of French *Rhododendrons*, which have flowered only indifferently this season; they are in pots, and are intended to take the place of the Camellias when out of flower. When they began to make their wood last year they were placed behind a wall in a north aspect; owing to heavy rains they made a second growth, which spoiled them from blooming this season. E. M. therefore wishes to know what she had best have done to prevent a recurrence of such disappointment; that is, how to treat them after they have done flowering, and where to place them so as to ripen their wood without making a fresh start?"

[Your *Dendrobium densiflorum* is putting up fourteen young shoots, and you wish to know if they should all remain? To answer this question satisfactorily is almost impossible without seeing the plant. If the last year's shoots are all very strong, the whole of the shoots may be allowed to remain; but if any of them are weak, and have

put up more than one shoot, then rub off the smallest, and let the best remain.]

Your term *French Rhododendrons* we cannot understand, as none are found wild in that country. You say they have not bloomed well this season. The reason probably is because they have not had sufficient pot-room. Give them a full shift now in good peat-mould, and place them out-of-doors, fully exposed to the sun. Place something around the pots (moss is a good material), to protect the young and tender roots from the sun. The giving them a full exposure will ripen the wood and cause them to produce flower-buds. Whilst growing they should be freely supplied with water, but when the growths are completed less must be given. Towards the autumn shelter them from heavy rains, and house them in good time, placing them in a cold house, if possible. With this treatment they will, no doubt, flower well next year.]

VENTILATING BEES.

HAVING stated in THE POULTRY CHRONICLE, previous to its merging into THE COTTAGE GARDENER, the benefit arising from ventilating hives during the winter, I think my experiment during the last one will speak still more strongly in its favour. I had twelve hives in the autumn, six I ventilated, six I did not. Out of the six former, five are strong, one weak. Of the six latter, three are dead from the loss of the queen, two weak, and one strong. — A COUNTRY RECTOR, Tadcaster, Yorkshire.

TO CORRESPONDENTS.

BERBERIS ASIATICA (W. D. Pain).—*Berberis Asiatica* is found in most respectable nurseries, and we should think you would find no difficulty in meeting with it. We doubt much, however, if you could get it in any large quantity at a price to induce you to make a hedge of it. Write to some one who advertises in our columns.

OLD SCARLET GERANIUMS (A Subscriber, Durham).—Turn them out from their pots undisturbed into the borders.

SOIL FOR FUCHSIAS (Pompano).—Loam, such as old pasture soil, two parts; thoroughly decayed stable-manure, one part; leaf-mould, one part, thoroughly mixed.

ROOTS OF MELONS (H., Belper).—We regret that your communication has not reached us.

GREEN FLY ON ROSES (G. T. F.).—Syringe them with tobacco-water. One part ammoniacal liquor from the gas-works, mixed with five or more parts of water, according to its strength, will also destroy the insects.

NAMES OF INSECTS.—The little red grubs which infest the Raspberry-buds at this season of the year, of which specimens have been forwarded by Mr. Henry Hogg, from Uttoxeter, are the caterpillars of a beautiful little Moth, which in the preceding summer deposited its eggs on the plants, and which is scientifically known under the name of *Tinea rubiella* alias *Glyphipteryx variella*. We know no better means of destroying the grubs than by giving the buds which are infested a sharp pinch between the thumb and fingers. If more of these grubs should be found, we shall be obliged by your forwarding them in a little box to Mr. H. T. Stainton, of Mountfield, Lewisham, who is anxious to rear the species, and to have drawings made of the transformations.—W.

The worm-like animals which infest your Kidney Beans are two different species of Snake millipede, *Julus plumbeus* and *J. pulchellus*. Slices of potato or cabbage-leaves buried near the rows of Kidney Beans form an excellent trap. They should be examined every other day, and the millipedes destroyed.—W.

The little black insect sent by H. G. M., taken from the stem of a Kidney Bean, is the larva of one of the Silphidae, probably *Silphium opaca*. We do not understand from the note of H. G. M. whether the insect was burrowing internally on the stem, or feeding externally. If the latter, we know no better remedy than to bury slices of potatoes near the spot as a decoy, and which should be examined two or three times a week. If H. G. M. can find any more specimens of the larva, please send them in a little tin box, with damp earth or moss, to Mr. Westwood, Hammersmith.

CINERARIAS (*Devoniensis*).—No. 4, white with broad, reddish-purple edge, good; but petals rather too much notched. No. 5, white with broad, pink edges, very good; petals slightly notched.

NAMES OF PLANTS (Mrs. Welch).—1. *Polystichum discretum*, 2. *Lastrea filix mas*. (A Young Gardener).—The smaller specimen. *Lycopodium densum*, and the larger, *L. cassium*. The Fern is *Polypodium lanceolatum*. (A. B., Wingham).—Your bulb is *Narcissus bulbocodium*, the Petticoat Narcissus. (T. M. W.).—*Carex pendula*. (Scott).—1. Red-barked variety of *Prunus padus*. 2. *Luzula campestris*. 3. *Stellaria graminea*. (J. N. R.).—We cannot tell your Australian plant unless we see a flower of it.

MOWING MACHINES (A Subscriber).—They are very desirable where there is a large surface of lawn or grass plot. We cannot recommend any maker in particular. You must refer to our advertising columns and select for yourself.

COLOURS (F. I.).—It is in vain to attempt to describe colours. If you do not know what "an angle" or "a figure" is, we must respectfully decline the task of teaching you. Unless you understand Botany, we can recommend no book on Wild Flowers for you to put in your pocket.

THE POULTRY CHRONICLE.

THE HATCHING SEASON.

COMPLAINTS of bad hatching are common, not only among Poultry-breeders, but Game-preservers; and Pheasants and chickens will both be late this year. We, therefore, come forward with a word of comfort for those who have equal dislike to early and late hatching. This is a numerous class. They will not encounter the labour of January chickens, and they share the old prejudice against hatching in June. We cannot understand why. It is said, chickens never do well if hatched at that time. We have had as good chickens as were ever bred, in that glorious and sunny month. Tradition says, that the tenth is the day when more Pheasants are hatched than in the remaining three hundred and sixty-four; and the twenty-first is the chosen time for Partridges. We know these rear well, and why should not chickens? The nights are short and warm, the earth teems with animal food, and there is nothing to interfere with their growth. If our readers will trust us, if they have been disappointed in early chickens, they will breed some in June, and when they see their rapid growth they will not repent it; and the chickens in October will show advantageously by the side of earlier brethren, nipped and dwarfed by the biting east wind.

THE EXETER POULTRY EXHIBITION.

HELD the 29th and 30th of May, 1856. We shall give our comments next week.

SPANISH.—First, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Second, John Buncombe, Esq., Wellington, Somerset. Third, Mrs. Brutton J. Ford, Ide, near Exeter. (Cup withheld.)

SPANISH CHICKENS OF 1856.—Second, Capt. H. M. Ellicombe, R.N., Culverland Cottage, Exeter. (First withheld.)

DORKING (Coloured).—First or Cup, J. L. Popham, Esq., Chilton, Hungerford. Second, Mr. William Connett, 270, High-street, Exeter. Third, Mr. William Connett, 270, High-street, Exeter.

DORKING (White).—Second, Richard Daw, Esq., Mount Radford, near Exeter. Third, Francis J. Coleridge, Esq., Ottery Saint Mary. (First withheld.)

DORKING CHICKENS OF 1856.—First, Mr. Henry Drew, Peamore, near Exeter. Second, Mrs. John Hole, Green End, Plymtree.

COCHIN-CHINA (Cinnamon or Buifs).—First, the Rev. G. F. Hodson, North Petherton, near Bridgwater. Second, Mr. W. L. Channing, Heavitree, near Exeter. Third, Robert T. Head, Esq., The Briars, Alplington.

COCHIN-CHINA (Brown or Partridge-coloured).—First or Cup, the Rev. G. F. Hodson, North Petherton, near Bridgwater. Second, Mrs. Brutton J. Ford, Ide, near Exeter. Third, Mrs. Brutton J. Ford, Ide, near Exeter.

COCHIN-CHINA CHICKENS OF 1856.—Prize withheld.

GAME (Black-breasted and other Reds).—First or Cup, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Second, Dr. Scott, St. Leonard's, near Exeter. Third, J. H. Amory, Esq., Bolham House, Tiverton.

GAME (Duckwings, &c.).—First, Second, and Third, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol.

GAME CHICKENS OF 1856.—First and Second, Dr. Scott, St. Leonard's, near Exeter.

MALAYS.—First, John Buncombe, Esq., Wellington, Somerset. Second, R. B. Stewart, Esq., Lydeard House, Swindon, Wilts. Third, John Buncombe, Esq., Wellington, Somerset.

GUINEA FOWLS.—Second, Mrs. Sarah Pratt, Tale Farm, Payhembury. (First withheld.)

HAMBURGS (Golden-pencilled).—First, Mrs. Charles Coleridge, Eton College, Windsor. Second, the Rev. Lewis Gidley, Honiton.

HAMBURGS (Golden-spangled).—First or Cup, Miss Frances Patteson, Feniton Court, near Honiton. (Second withheld.)

HAMBURGS (Silver-pencilled).—Second, Miss Frances Patteson, Feniton Court, near Honiton. (First withheld.)

(There was so much confusion in the classes of Hamburgs, that we fear mistakes occurred.)

POLANDS (Black, with White Crests).—First, G. S. Fox, Esq., The Court, Wellington. (Second, no competition.)

POLANDS (Golden).—Second, Edward Winthrop, Esq., Lydeard House, near Swindon, Wilts. (First withheld.)

POLANDS (Silver).—First, Mrs. Charles Coleridge, Eton College, Windsor. (Second withheld.)

THOROUGH BRED.—First, Walter Hugo, Esq., Albert Villa, Mount Radford, near Exeter. (White Spanish.) Second, Walter Hugo, Esq., Albert Villa, Mount Radford, near Exeter. (Black Hamburgs.)

BANTAMS (Gold-laced).—First, the Rev. G. S. Cruwys, Cruwys Morchard Court, Tiverton. Second, T. H. D. Bayly, Esq., Ickwell House, near Biggleswade, Beds.

BANTAMS (Silver-laced).—First, T. H. D. Bayly, Esq., Ickwell House, near Biggleswade, Beds. Second, the Rev. G. F. Hodson, North Petherton, near Bridgwater.

BANTAMS (Any other variety).—First, the Rev. G. F. Hodson, North Petherton, near Bridgwater. (Black.) Extra first prize, Mr. W. H. Minty, Stafford Terrace, Heavitree. (Rumpless.) Second, Rev. G. S. Cruwys, Cruwys Morchard Court, Tiverton.

TURKEYS.—First or Cup, Charles Edwards, Esq., Brockley Court, near Bristol. Second, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Third, George Turner, Esq., Barton, Exminster.

GESE.—First, Philip Francis, Esq., Moor House, Crediton. Second, Mrs. John Hole, Green End, Plymtree.

DUCKS (Aylesbury).—Prize withheld.

DUCKS (Rouen).—Third, the Rev. G. F. Hodson, North Petherton, near Bridgwater. (First and Second withheld.)

We will give the Pigeon prizes next week, together with our comments.

DUCK FEEDING.

COULD you inform me at what age it is desirable to vary the soft food for Ducks with a few oats, and whether they are better soaked or dry at first?—AZILE.

[If it is desired, Ducks may be put on hard food at eight weeks old. Our own impression is, that meal is always cheaper food for Poultry than whole corn. Oats are best for Ducks, and they should be put in water with a little gravel. The latter keeps them very healthy, but it also gives enormous appetite. If they are at liberty it may be thrown on the ground, choosing a hard spot to avoid waste.]

GRITS IN THE HUSK.

KATE has a sack of grits—but they are in the husk—not at all like those bought at the grocers. Can she use these *parboiled*, and mixed with oatmeal, for young chickens? and would the grits be more injurious than the others, if given unboiled?

[We think the grits may be given unboiled. We have never tried them with the husks; but we are partial to the ordinary ones for chickens, and we give them without any preparation.]

OUR LETTER BOX.

HOW TO DETECT FERTILE EGGS (J. Duffield).—"By what means can I judge whether the eggs are fecundated or otherwise? I have looked into various books upon the subject, which nearly all advise examination of the eggs by candle-light to ascertain whether they are so, or otherwise, but not one of them explains by what particular mark or appearance I can ascertain the fact."

[We confess our inability to give the required information. We further express our belief, that where there is no reason why the eggs should be sterile, they are seldom or never found to be so. It is against nature; and causes may generally be found for the non-production of chickens from eggs, in the state of the weather, or even the condition of the hen. Where a young and healthy cock runs with hens no such complaints should ever be listened to.]

HEN LAYING SOFT EGGS (A Novice in Poultry Keeping).—"The symptoms you describe show that the egg-organs of your hens are over-excited. Separate the male bird from them; give them at an interval of a day two pills, each containing one grain of calomel and one-twelfth of a grain of tartar emetic; substitute scalded rice for the barley; feed them less liberally, but give them as much green food as they will eat, such as grass and lettuce leaves."

LONDON MARKETS.—JUNE 2ND.

COVENT GARDEN.

Supply good, and a steady trade in general; first-rate articles commanding prices quite equal to last week. Importations from the Continent now include three or four varieties of good *Cherries*, and some good spring *Cauliflowers*. Among home-produce there is not anything new to report. Prices for Cornish and Somerset *Potatoes* may be quoted about 20 per cent lower.

LONDON: Printed by HUGH BARCLAY, Winchester High-street, in the Parish of Saint Mary Kalendar; and Published for the Proprietors at THE COTTAGE GARDENER OFFICE, No. 20, Paternoster Row, in the Parish of Christ Church, City of London.—June 3, 1856.

CRYSTAL PALACE.**GRAND HORTICULTURAL EXHIBITION,
SATURDAY, MAY 24, 1856.****AWARD OF THE JUDGES.****PLANTS.****PRIZES OF 30/. EACH TO**

Mr James May, Gardener to H. Colyer, Esq., Dantford, Kent, for 20 Stove and Greenhouse Plants in flower.
Mr H. Gedney, Gr. to Mrs Ellis, Hoddesdon, Herts, for 20 Exotic Orchids.
Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for 20 Exotic Orchids.

PRIZES OF 25/. EACH TO

Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for 25 Stove or Greenhouse Plants, in or out of flower.

PRIZES OF 20/. EACH TO

Mr George Barter, Gr. to A. Bassett, Esq., Stamford Hill, for 20 Stove and Greenhouse Plants in flower.
Mr J. Mylam, Gr. to G. Reed, Esq., Burnham, Somerset, for 20 Exotic Orchids.

PRIZES OF 18/. EACH TO

Mr G. Dods, Gr. to Sir John Cathcart, Bart., Englefield Green, for 12 Stove and Greenhouse Plants in flower.
Mr John Green, Gr. to Sir E. Antrobus, Bart., Cheam, for 12 Greenhouse Azaleas.

PRIZES OF 15/. EACH TO

Mr George Young, Gr. to W. Stone, Esq., Dulwich Hill, for 25 Stove and Greenhouse Plants, in or out of flower.
Mr S. Woolley, Gr. to H. B. Ker, Esq., Cheshunt, for 20 Exotic Orchids.

PRIZES OF 12/. EACH TO

Mr S. W. Carson, Gr. to W. F. G. Farmer, Esq., Nonsuch Park, Surrey, for 12 Stove and Greenhouse Plants in flower.
Mr Gaines, Nurseryman, Battersea, for 12 Greenhouse Azaleas.

PRIZES OF 10/. EACH TO

Mr James Morris, Gr. to Coles Child, Esq., The Palace, Bromley, Kent, for 25 Stove and Greenhouse Plants, in or out of flower.
Mr John Green, Gr. to Sir Edmund Antrobus, Bart., Cheam, for 20 Stove and Greenhouse Plants in flower.
Mr W. Cutbush, Nurseryman, Barnet, for 6 Stove and Greenhouse Plants in flower.
Mr M. Clarke, Hoddesdon, Herts, for 12 Exotic Orchids.
Mr S. W. Carson, Gr. to W. F. G. Farmer, Esq., of Nonsuch Park, Surrey, for 6 Exotic Orchids.
Mr R. Roser, Gr. to J. Bradbury, Esq., Streatham, for 12 Greenhouse Azaleas of new kinds.
Messrs Lane & Son, Nurserymen, Great Berkhamstead, for 12 Roses in pots.
Mr Charles Turner, Nurseryman, Slough, for 12 Pelargoniums in 8-inch pots.
Mr Charles Turner, Nursery, Slough, for 12 Fancy Pelargoniums in 8-inch pots.
Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for 6 plants of Nepenthes, with pitchers.

PRIZES OF 8/. EACH TO

Mr S. W. Carson, Gr. to W. F. G. Farmer, Esq., Nonsuch Park, for 6 Greenhouse Azaleas.
Mr Thomas Williams, Gr., Hayes, Kent, for 10 Cape Heaths.

PRIZES OF 7/. EACH TO

Mr Osman Rhodes, Gr. to J. Philpott, Esq., Stamford Hill, for 20 Stove and Greenhouse Plants in flower.
Mr John Green, Gr. to Sir E. Antrobus, Bart., Cheam, for 12 Greenhouse Azaleas of new kinds.

Mr John Green, Gr. to Sir E. Antrobus, Bart., Cheam, for 6 Tall Cacti in flower.
Messrs Dobson & Sons, Nurserymen, Isleworth, for 12 Pelargoniums in 8-inch pots.
Messrs J. & J. Fraser, Nurserymen, Lea Bridge Road, for 12 Fancy Pelargoniums in 8-inch pots.
Messrs Paul & Son, Cheshunt, for 12 Roses in pots.

PRIZES OF 6/. EACH TO

Mr R. Roser, Gr. to J. Bradbury, Esq., Bedford House, Streatham, for 12 Stove and Greenhouse Plants in flower.
Mr W. Taylor, Gr. to J. Coster, Esq., Streatham, for 6 Stove and Greenhouse Plants in flower.
Mr B. Peed, Gr. to T. Tredwell, Esq., Norwood, for 12 Greenhouse Azaleas.
Mr R. Roser, Gr. to J. Bradbury, Esq., Streatham, for 6 Greenhouse Azaleas.
Mr R. Roser, Gr. to J. Bradbury, Esq., Streatham, for 10 Cape Heaths.
Mr W. Taylor, Gr. to J. Coster, Esq., Streatham, for 6 Cape Heaths.
Mr W. Keele, Gardener to J. Butler, Esq., Rectory Place, Woolwich, for 6 Exotic Orchids.

PRIZES OF 5/. EACH TO

Mr James May, Gr. to H. Colyer, Esq., Dartford, for 10 Cape Heaths.
Mr R. Grix, Gr. to A. Palmer, Esq., Cheam, for 6 Tall Cacti in flower.
Mr E. P. Francis, Hertford, for 12 Roses in pots.
Mr M. Bushy, Gr. to S. Crawley, Esq., Luton Park, Beds, for 6 Roses in pots.
Messrs J. & J. Fraser, Nurserymen, Lea Bridge Road, for 12 Pelargoniums in 8-inch pots.
Mr H. Nye, Gr. to E. Foster, Esq., Clewer Manor, Berks, for 6 Pelargoniums in 8-inch pots.
Messrs Cutbush & Son, Nurserymen, Highgate, for 12 Fancy Pelargoniums.
Mr Thomas Windsor, Gr. to A. Blyth, Esq., Hampstead, for 6 Fancy Pelargoniums.

PRIZES OF 4/. EACH TO

Mr B. Peed, Gr. to T. Tredwell, Esq., St. John's Lodge, Norwood, for 12 Stove and Greenhouse Plants in flower.
Mr O. Rhodes, Gr. to J. Philpott, Esq., Stamford Hill, for 12 Greenhouse Azaleas.
Mr R. Grix, Gr. to A. Palmer, Esq., Cheam, for 6 Greenhouse Azaleas.
Messrs J. & J. Fraser, Nurserymen, Lea Bridge Road, for 12 Greenhouse Azaleas of new kinds.
Mr B. Peed, Gr. to T. Tredwell, Esq., Norwood, for 10 Cape Heaths.
Mr W. Cutbush, Nurseryman, Barnet, for 6 Cape Heaths.
Messrs Lane & Son, Nurserymen, Berkhamstead, for 6 distinct kinds of Rhododendrons.
A. Rowland, Esq., Rosenthal, Lewisham, for 6 Roses in pots.
Mr A. Bousie, Gr. to the Right Hon. H. Labouchere, M.P., Stoke Park, Slough, for 6 Fuchsias in pots.
Mr Gaines, Nurseryman, Battersea, for 12 Pelargoniums in pots.
Messrs Dobson & Sons, Nurserymen, Isleworth, for 12 Fancy Pelargoniums.

PRIZES OF 3/. EACH TO

Mr Charles Smith, Gr. to Arthur Anderson, Esq., the Grove, Norwood, for 12 Stove and Greenhouse Plants in flower.
Mr James Morris, Gr. to Coles Child, Esq., The

Palace, Bromley, for 12 Stove and Greenhouse Plants in flower.

Mr Wm. Laybank, Gr. to J. Maudslay, Esq., Knight's Mill, Norwood, for 6 Stove and Greenhouse Plants in flower.
Mr John Green, Gr. to Sir E. Antrobus, Bart., Cheam, Surrey, for 6 Exotic Orchids.
Mr James May, Gr. to H. Colyer, Esq., Dartford, for 6 Greenhouse Azaleas.
Mr W. Taylor, Gr. to J. Coster, Esq., Streatham, for 12 Greenhouse Azaleas of new kinds.
Mr W. Laybank, Gr. to J. Maudslay, Esq., Norwood, for 6 Cape Heaths.
Messrs Standish and Noble, Nurserymen, Bagshot, for 6 distinct kinds of Rhododendrons.
Mr W. Mortimore, Crouch End, Hornsey, for 6 Roses in pots.
Mr George Lambert, Oakwood, Chichester, for 6 distinct Calceolarias.
Mr O. Rhodes, Gr. to J. Philpott, Esq., Stamford Hill, for 6 Fuchsias in pots.
Mr John Wiggins, Gr. to E. Beck, Esq., Isleworth, for 6 Pelargoniums in 8-inch pots.
Mr A. Bousie, Gr. to the Right Hon. H. Labouchere, M.P., Stoke Park, Bucks, for 6 Fancy Pelargoniums.
Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for New or Rare Plants in flower (*Correa cardinalis*).
Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for New or Rare Plants not in flower (*Drosera dichotoma*).
Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for Plants of *Amnctochilus* and *Physurus*.
Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for *Rhododendron Caucasicum*.

PRIZES OF 2/. 10s. EACH TO

Mr W. Taylor, Gr. to J. Coster, Esq., Streatham, for 6 Greenhouse Azaleas.
Messrs Ivery & Son, Nurserymen, Dorking, for 6 Greenhouse Azaleas of new kinds.
Mr O. Rhodes, Gr. to J. Philpott, Esq., Stamford Hill, for 10 Cape Heaths.
Mr G. Young, Gr. to W. Stone, Esq., Dulwich Hill, for 6 Cape Heaths.
Messrs Veitch and Son, Nurserymen, Exeter and Chelsea, for *Embothrium coccineum*.

PRIZES OF 2/. EACH TO

Mr Thomas Williams, Gr., Hayes, Kent, for 6 Stove and Greenhouse Plants in flower.
Mr G. T. Brush, Gr. to T. Tritton, Esq., Norwood, for 6 Greenhouse Azaleas.
Messrs Lane and Son, Nurserymen, Great Berkhamstead, for 12 Greenhouse Azaleas of new kinds.
Mr G. Barter, Gr. to A. Bassett, Esq., Stamford Hill, for 6 Cape Heaths.
Mr Gaines, Nurseryman, Battersea, for 6 distinct kinds of Rhododendrons.
Mr John Cole, St. Albans, for 6 varieties of Calceolarias.
Mr Chilman, Gr. to Mrs Smith, Ashstead House, Epsom, for 6 Fuchsias in pots.
Mr Thomas Windsor, Gr. to A. Blyth, Esq., Hampstead, for 6 Pelargoniums in 8-inch pots.
Mr James Weir, Gr. to John Hodgson, Esq., Hampstead, for 6 Fancy Pelargoniums.
Mr W. J. Epps, Nurseryman, Maidstone, for New or Rare Plants in flower (*Genetilis ulipifera*).
Messrs Veitch and Son, Nurserymen, Exeter and Chelsea, for New or Rare Plants not in flower (*Gleichenia microphylla*).
Mr Charles Turner, Nurseryman, Slough, for Cinerarias and Pelargoniums.
Mr T. Dall, Gr. to James Renny, Esq., Grace's Cottages, Pimlico, for Gloxinias.

Further List of Prizes awarded at this great Horticultural Exhibition continued on next page.

CRYSTAL PALACE LIST OF PRIZES—Continued.

Mr G. Young, Gr. to W. Stone, Esq., Dulwich Hill, for Gloxinias.
Mr E. A. Hamp, Gr. to James Thorne, Esq., South Lambeth, for a collection of Amaryllis.

PRIZES OF 1*l*. 10*s*. EACH TO

Mr Thomas Page, Gr., Park Hill, Streatham, for 6 Stove and Greenhouse Plants in flower.
Mr G. T. Brush, Gr. to T. Tritton, Esq., Bloomfield Hall, Norwood, for 6 Stove and Greenhouse Plants in flower.
Mr C. Girdler, Gr., Snarbrook, Essex, for 6 Stove and Greenhouse Plants in flower.
Mr James Morris, Gr. to Coles Child, Esq., Bromley, for 6 Greenhouse Azaleas.
Mr J. Harlock, Gr. to R. W. Nutter, Esq., Wanstead, for 6 Cape Heaths.
Mr W. Forsyth, Gr. to Baron Rothschild, Gunnersbury Park, Acton, for Seedling Calceolarias.
Mr W. Taylor, Gr. to J. Coster, Esq., Streatham, for 6 varieties of Apelexis.

PRIZES OF 1*l*. EACH TO

Mr H. Smith, Gr. to A. W. Roberts, Esq., Rochester, for 6 Greenhouse Azaleas.
Messrs Dobson and Sons, Nurserymen, Isleworth, for 6 distinct Calceolarias.
Mr T. Carrigan, Clapham Common, for 6 Pelargoniums in 8-inch pots.
Mr James Weir, Gr. to John Hodgson, Esq., Hampstead, for six Pelargoniums in 8-inch pots.
Mr W. Moekett, Gr. to J. Allnutt, Esq., Clapham, for 6 Fancy Pelargoniums.
Mr T. Carrigan, Clapham Common, for 6 Fancy Pelargoniums.
Mr George Keeble, Gr. to H. W. Davis, Esq., Hounslow, for 6 Fancy Pelargoniums.
Mr James Morris, Gr. to Coles Child, Esq., Bromley, for 6 Fancy Pelargoniums.
Messrs Veitch and Son, Nurserymen, Exeter and Chelsea, for New or Rare Plant in flower (*Nidularia picta*).
Messrs Veitch and Son, Nurserymen, Exeter and Chelsea, for New or Rare Plant, not in flower

(*Ouvirandra fenestralis*, or Madagascare Lattice plant).

Mr H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham, Leatherhead, for a collection of Ferns.
Mr C. G. Wilkinson, for cut Roses.
Mr A. Ingram, for 12 trusses of Rhododendrons.
Messrs Cutbush and Son, for a collection of Ferns.
Messrs Dobson and Sons, for a collection of Pansies.

PRIZES OF 15*s*. EACH TO

Mr W. Keele, Gr. to J. Butler, Esq., Woolwich, for 6 Greenhouse Azaleas.
Mr Lambert, Oakwood, Chichester, for *Eutaxia myrtifolia*.

PRIZE OF 10*s*. EACH TO

Messrs Paul and Son, Nurserymen, Cheshunt, for New or Rare Plant in flower (*Bourbon Rose*, "Bacchus").

FRUIT.

A PRIZE OF 8*l*. TO

Mr G. Fleming, Gr. to the Duke of Sutherland, Trentham, for a collection of 8 dishes of Fruit.

A PRIZE OF 6*l*. TO

Mr John Davis, Nurseryman, East Barnet, for a collection of 3 Pine Apples.

PRIZES OF 5*l*. EACH TO

Mr R. Turnbull, Gr. to the Duke of Marlborough, Blenheim, for 3 dishes of distinct kinds of Grapes.
Mr W. Forsyth, Gr. to Baron Rothschild, Gunnersbury Park, Acton, for Vines with ripe fruit, in pots.

PRIZES OF 4*l*. EACH TO

Mr James Nichol, Gr. to General Stadd, Oxton House, Devon, for a collection of 3 Pine Apples.
Mr R. Turnbull, Gr. to the Duke of Marlborough, Blenheim, for a single dish of Muscadine Grapes.
Mr G. Fleming, Gr. to the Duke of Sutherland, Trentham, for a collection of three kinds of Cherries.
Mr C. Ewing, Gr. to O. F. Meyrick, Esq., Bodorgan, Anglesea, for a collection of three distinct kinds of Strawberries.
Mr John Davis, Nurseryman, East Barnet, for 12 lbs. of Grapes.

PRIZES OF 3*l*. EACH TO

Mr John Davis, Nurseryman, East Barnet, for a Providence Pine Apple.
Mr R. Turnbull, Gr. to the Duke of Marlborough, Blenheim, for a Queen Pine Apple.
Mr John Davis, Nurseryman, East Barnet, for a Pine Apple.
Mr John Mouro, Gr. to Mrs. Oddie, Colney House, St. Albans, for a collection of three distinct kinds of Grapes.
Mr John Davis, Nurseryman, East Barnet, for a single dish of Black Hamburgh Grapes.
Mr M. Henderson, Gr. to Sir G. Beaumont, Bart., Ashby de la Zoueh, for a single dish of Frontignan or Chasselas Musqué Grapes.
Mr John Davis, Nurseryman, East Barnet, for Sweetwater or Muscadine Grapes.
Mr W. Gardiner, Gr. to Sir G. Phillips, Bart., Weston House, Warwickshire, for a single dish of Peaches.
Mr G. Fleming, Gr. to the Duke of Sutherland, Trentham, for a single dish of Nectarines.
Mr S. Evans, Gr. to C. N. Newdegate, Esq., M.P., Arbury, Warwickshire, for a collection of 3 kinds of Cherries.
Mr R. Turnbull, Gr. to the Duke of Marlborough, Blenheim, for a collection of 3 kinds of Strawberries.

rough, Blenheim, for a collection of 3 kinds of Strawberries.

PRIZES OF 2*l*. EACH TO

Mr E. Robinson, Gr. to Lord Boston, Hedsor, Maidenhead, for a collection of 3 kinds of Pine Apples.
Mr E. Robinson, Gr. to Lord Boston, Hedsor, for a single Providence Pine Apple.
Mr John Davis, Nurseryman, East Barnet, for a single Queen Pine Apple.
Mr Roger Jones, Gr. to the Dowlais Iron Company, Dowlais, for a Pine Apple.
Mr James Tegg, Gr. to Baron Hambro, Rochester, for a collection of three distinct kinds of Grapes.
Mr M. Clarke, Nurseryman, Hoddesdon, for a single dish of Black Hamburgh Grapes.
Mr Walter Reid, Gr. to J. Hunt, Esq., Sydenham Hill, for a single dish of Frontignan or Chasselas Musqué Grapes.
Mr Henry Jackson, Gr. to G. Beaufoy, Esq., South Lambeth, for Sweetwater or Muscadine Grapes.
Mr G. Fleming, Gr. to the Duke of Sutherland, Trentham, for a single dish of Peaches.
Mr W. Hill, Gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, for a single dish of Nectarines.
Mr Peter Boreham, Gr. to Sir Fitzroy Kelly, Chantrey, Ipswich, for the Heaviest Melon—Persian or Hybrids from it.
Mr Peter Boreham, Gr. to Sir Fitzroy Kelly, Chantrey, Ipswich, for a Green-fleshed Melon.
Mr C. Ewing, Gr. to O. F. Meyrick, Esq., M.P., Bodorgan, Anglesea, for a Scarlet-fleshed Melon.
Mr M. Busby, Gr. to G. Crawley, Esq., Luton Park, Beds, for a single dish of Figs.
Mr John Richards, of —, for a single dish of Figs.
Mr E. Shnter, Gr. to the Earl of Wilton, Heaton Park, Manchester, for a single dish of Black Cherries.
Mr G. Fleming, Gr. to the Duke of Sutherland, Trentham, for a single dish of Plums.
Mr W. Dunsford, Market Gardener, Chingford, Essex, for a single dish of Strawberries.
Mr E. Spary, Queen's Graperies, Brighton, for 12 lbs. of Grapes.

PRIZE OF 1*l*. 10*s*. TO

Mr James Allport, Gr. to — Akroyd, Esq., Dodington Park, for Black Frontignan Grapes.

PRIZES OF 1*l*. 5*s*. EACH TO

Mr S. Evans, Gr. to C. N. Newdegate, Esq., M.P., Arbury, Warwickshire, for a single dish of Black Cherries.

Mr Joseph Gillham, Market Gardener, Isleworth, for a single dish of Strawberries.

PRIZES OF 1*l*. EACH TO

Mr Thomas Bailey, Shardiloes, Amersham, for a Providence Pine Apple.
Mr Roger Jones, Gardener to the Dowlais Iron Company, Dowlais, for a Queen Pine Apple.
Mr W. Taylor, Gr. to J. Coster, Esq., Streatham, for a Pine Apple.
Mr E. Bundle, Gr. to G. Soanes, Esq., Streatham, for a single dish of Black Hamburgh Grapes.
Mr John Smith, Gr. to S. Ricardo, Esq., M.P., Sunning Hill, for Sweetwater or Muscadine Grapes.
Mr S. Evans, Gr. to C. N. Newdegate, Esq., M.P., Arbury, Warwickshire, for a single dish of Peaches.
Mr S. Evans, Gr. to C. N. Newdegate, Esq., M.P., Arbury, Warwickshire, for a single dish of Nectarines.
Mr James Nichol, Gr. to General Stadd, Oxton House, Devon, for the Heaviest Melon, Persian or Hybrids from it.
Mr James Nichol, Gr. to General Stadd, Oxton House, Devon, for a Green-fleshed Melon.
Mr W. Tegg, Gr. to A. Pryor, Esq., Rochester, for a single dish of Figs.
Mr William Hill, Gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, for Black Pine Grapes.
Mr G. Tillyard, Gr. to the Rt. Hon. the Speaker, Heckfield, Hants, for Pears.

PRIZES OF 15*s*. EACH TO

Mr John Monro, Gardener to Mrs. Oddie, St. Albans, for a single dish of Black Cherries.
Mr A. Ingram, Gr. to J. J. Blandy, Esq., Reading, for a single dish of Strawberries.
Mr B. Peed, Gr. to T. Tredwell, Esq., Norwood, for a Queen Pine Apple.
Mr E. Spary, Queen's Graperies, Brighton, for a single dish of Black Hamburgh Grapes.
Mr T. Williams, Gr. to C. B. Warner, Esq., Hoddesdon, Herts, for a dish of Sweetwater or Muscadine Grapes.
Mr W. Hill, Gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, for a dish of Peaches.

PRIZES OF 10*s*. EACH TO

Mr R. Turnbull, Gr. to the Duke of Marlborough, Blenheim, for a Pine Apple.
Mr Walter Bain, Gr. to A. Perkins, Esq., Hanworth Park, for a dish of Figs.
Mr G. Fleming, Gr. to the Duke of Sutherland, Trentham, for a dish of Black Cherries.
Mr T. Williams, Gr. to C. B. Warner, Esq., Hoddesdon, Herts, for Oranges, Lemons, &c.
Mr M. Clarke, Hoddesdon, Herts, for Citrons, new kind.

(By Order.)

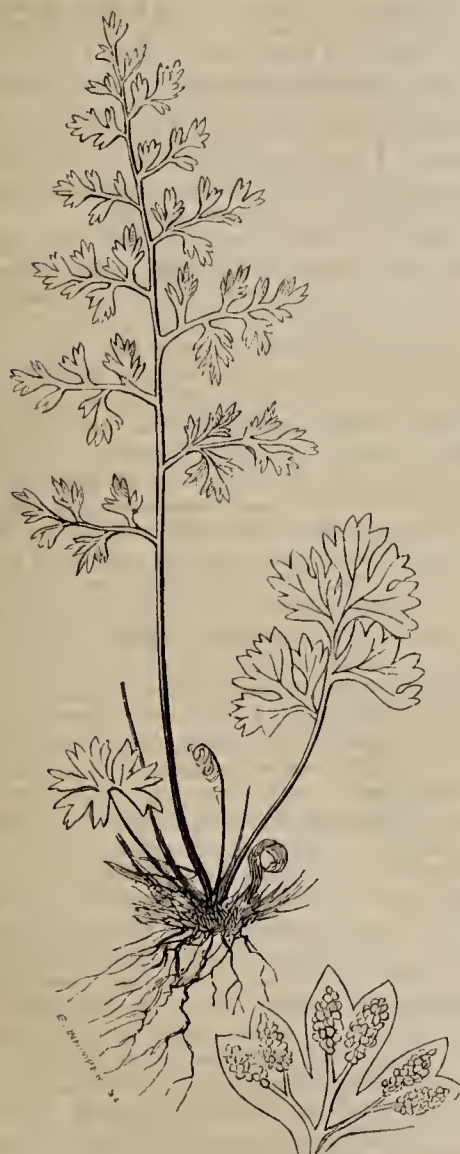
G. GROVE, Secretary.

WEEKLY CALENDAR.

D M	D W	JUNE 10—16, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
10	Tu	Cryptophagus pallens.	30.227—30.189	73—41	N.E.	—	45 a 3	13 a 8	0 36	3	0 50	162
11	W	St. BARNABAS.	30.195—30.189	72—46	E.	—	45	14	0 46	9	0 38	163
12	Th	Nitidula Boleti.	30.107—29.556	70—54	N.E.	—	44	15	0 56	10	0 26	164
13	F	Nitidula fulva.	29.616—29.435	74—51	E.	27	44	15	1 6	11	0 14	165
14	S	Nitidula obscura.	29.517—29.485	61—51	S.W.	17	44	16	1 17	12	0 1	166
15	Sun	4 SUNDAY AFTER TRINITY.	29.346—29.280	65—42	S.W.	11	44	17	1 31	13	bf. 11	167
16	M	Nitidula decem guttata.	29.434—29.308	65—46	S.	46	44	17	1 49	14	0 24	168

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 71.9°, and 49.5°, respectively. The greatest heat, 90°, occurred on the 12th, in 1842; and the lowest cold, 30° on the 15th, in 1850. During the period 109 days were fine, and on 87 rain fell.

GYMNOGRAMMA LEPTOPHYLLA.
(SLENDER-LEAVED GYMNOGRAM)



THIS is the *Polypodium leptophyllum* of Linnæus, but he doubted whether it belonged to that genus, and inclined to think it the link uniting *Polypodium* with *Acrostichum* and *Osmunda*. Deecandolle considered it really a species of *Acrostichum*, and other botanists included it in *Anogramma*, *Grammitis*, *Asplenium*, and *Osmunda*. It was united with other species taken from *Acrostichum* and *Hemionitis*, to form the genus *Gymnogramma*, by Desvaux, in 1808. This name, derived

from *gymnos*, naked, and *gramma*, writing, alludes to the naked fructification being arranged somewhat like writing in straight lines.

It is an annual, or at most a biennial. Its root is a tuft of short, slender, black fibres. Its fronds are usually about the height represented in our drawing; but in warm, favourable situations it will sometimes be twice as high. The barren fronds, as shown in our drawing, are only half as tall as the fertile fronds; they have from one to three fan-shaped leaflets, variously lobed, and at first resting upon the ground. The fertile fronds have a stout, pale brown, glossy stem, the leaflets occupy half its length, they are alternate, twice and sometimes thrice leafletted, the leaflets being also alternate, divided into three lobes, each lobe being two-toothed, so as to be somewhat reversed heart-shaped. A vein passes into each lobe and forks so as to extend a branch into each tooth of the lobe. On these forks, and along their whole length is the fructification. Finally, the spores run together, and usually cover the whole under surface of the leaflet.

This has long been known as a native of the southern continent of Europe, its adjacent islands, and Madeira, but it was not until 1852 that it was found to be a native of the British Isles. In that year it was discovered by N. B. Ward, Esq., and others, in the Island of Jersey. It was growing on moist banks having a southern aspect, where *Marchantia* flourishes. Mr. Ward found it in various localities, besides near St. Aubyn's and St. Lawrence. It is not unlikely to be discovered at the back of the Isle of Wight.

Mr. J. Reeve informs us that the *Gymnogramma leptophylla* is well worth cultivating; and although considered quite hardy, will thrive best either in the greenhouse (which seems to suit it as well as any place), stove, or Wardian case. If cultivated in the open air, a sheltered situation should be chosen—sheltered from cold, cutting winds, as well as from the burning rays of the sun, both of which will prove very injurious, if not fatal, to its slender fronds. A warm, shady nook, in a rockery, will, therefore, be the best situation for it. In this situation, a free, open compost, of equal parts leaf-mould and peat, with an addition of sand, will grow it well. It must have a moderate supply of water overhead during the season of growth; but such watering must be withheld as the autumn approaches. During the winter months it will require no water, but must have a slight protection if it remains in the rockery out-

of-doors. It may be taken up and potted in the autumn, and placed in the greenhouse for the winter. If grown as a pot-plant for the greenhouse, an addition to the before-mentioned compost of one-fourth loam, with a small quantity of sphagnum, will be preferred, with a good drainage. Frequent syringing, or sprinkling with water, will be required, and still more so if grown in a stove. If grown in a Wardian case, the same compost as for pot culture will be suitable for it, and to be placed near the bottom of the case.

This is one amongst many other Ferns that is suitable for growing under a glass shade or bell-glass by itself, looking very neat, and can be kept in a small room, not capable of accommodating a large case.

It may be increased by division, or by filling a pot with small lumps of peat and freestone, and sprinkling the surface with the fructification of the Fern when just ripe. Keep the pot in a moist and warm place until the seedlings are up and large enough to finger, when they may be potted into small pots in little lumps, with the growing plants upon them. They must still be placed in a close, shady situation until large enough to plant out finally.

At the Meeting of the Council of the London Horticultural Society, on the 27th of May, various subjects intimately connected with the existence of the Society were discussed. We are not in a position to publish the discussions in detail; but we may state briefly that any attempt to revive the Chiswick Shows will not be made this year.

Serious complaints were made that the circulars had not been forwarded by the Secretary, as he was directed, requesting contributions for the preservation of the Gardens. Notwithstanding this neglect, £3,500 have been subscribed, and the list will be kept open a short time longer to ascertain the result of the circulars which have now been sent. The probability is that the Gardens will be saved to the Society, that the Regent Street establishment will be given up, and that Government will grant the Society rooms in Burlington House. If this course, dictated by common sense, be pursued, not only will the funds of the Society be largely strengthened by the sale of the lease and of the library, but a very material saving will be effected in the salaries of the officials: whose services will be dispensed with remains for further consideration. Another large annual saving may be effected, also, in the management of the Garden, for we hear that a very responsible party offered to have it efficiently managed for £1200 a-year.

The Meeting at the rooms on the same day was very indifferent. The most noticeable objects were *Alonsoa Worezewiczii*, scarlet-flowered, and said to be a good bedder, as was *Nemesia versicolor*, a blue-flowered Cape of Good Hope plant.

Strawberries, well-fruited, were exhibited in 5-inch pots, and this size (the old 48s) are said to be quite large enough for forcing this fruit. If so, a very important saving of space will be effected.

BEDDING PLANTS.

THE VARIEGATED MINT.—A "Yorkshire Clergyman" sent me three little cuttings of the Variegated Mint (see page 55, and, again, page 153). These cuttings bore no resemblance to the plant; they were perfectly smooth at the time; but now, after rooting and a little growth, they are as hoary as they should be, and now there is no question about the identity of the plant. Since then I received a potful of rooted cuttings of it from Shrubland Park, along with all the bedding Geraniums there, so that, instead of being a scarce or neglected plant, it would appear to be in use in some of the best and most fashionable places in the country. The first time I thought of it for bedding was in the autumn of 1850, on seeing patches of it in the garden of the late Mr. Crowe, at Coddensham, near Shrubland, from whom I received a plant of it; but the bustle about the new buildings and Prince Albert's visit drove it out of my head in 1851, and on coming here I found it a weed, as it were, in every garden; but I think I noticed it once, in a collection of variegated plants, in Mr. Jackson's nursery. In my own experimental garden it is a bothersome plant, and grows over everything near it; nevertheless, I have just "taken to it," from the useful notices about it in *THE COTTAGE GARDENER*; and I must say I have found it very useful already.

After saying I had room for 2000 Geraniums, and after the 100,000 which I had given away in my day, I expected to receive, at least, double the number I had room for in the beds. But, no; they did not fully understand me; they sent most liberally *in kinds*, so much so, that at the end of six weeks I had the richest collection of them in England; but my beds have only the "sheets" as yet, and no other furniture. Well, to "spin out" the best way I could, I planted two match beds with as many plants of *Flower of the Day* as would do for one good "furnished" bed; and to make up the difference, I planted both beds over again with this Variegated Mint, and you never saw a better arrangement for a poor man, or a neglected friend, in your life; and all from the notice of the Mint by the "Yorkshire Clergyman," just at the time I was tearing up "loads" of it from the borders of the experimental garden.

There is another variegated hardy plant in the experimental garden which I like better than this Mint—a companion to the Golden Chain itself—the *Variegated Ground Ivy* (*Glechoma hederacea*). It is a slender, trailing, British plant, a sport from one of the commonest of our native weeds, and the best of them for trailing over a rustic basket, next after the *Moneywort*.

There are several rustic beds and baskets in the experimental garden already, and better furnished than some of you might think. The Hound's Tongue, the Moneywort, the Variegated Mint and Ground Ivy, and the Germander Speedwell, (*Veronica chamaedrys*), and four more coarser plants, cluster or hang down round the edges of one of these rustic baskets. Different kinds of trailing *Helianthemums*, or Sun Roses, hang down over the rims of another; and that seems the best way of growing all the trailing Cistuses. They are so impatient of water at the roots in winter, that many people cannot keep them at all; but clove them on dry rockwork, or as most appropriate trailers for rustic baskets, and you secure them against their natural enemy, and bring them better in sight while they are in bloom; and their evergreen leaves, of every shade of green to light hoariness, make the basket look as well in winter as the hanging baskets at the Crystal Palace. Many kinds of creeping Stonecrops, or Sedums, hang about these rustic baskets in different ways, and look as well as anything. But how are the rustic baskets themselves planted? How, indeed! that is just the question with me now, above all others; but if ever you

undertake to plant a *new* garden on the strength of old friendship, perhaps you will not make a better figure of it than I have done yet.

Then there are beautiful vases in the experimental garden, which are of most artistic style and shapes. Some of them came out of the very moulds in which the last design for the Duchess of Sutherland was east—these are called Duchesses, of course. How are *they* planted? That is another of the experiments which must stand over till we see how they look by-and-by; for out of all the bedding Geraniums I have yet received, I only had one little plant of *Tom Thumb* sent among them. I had some excellent Petunias, but no Calceolarias; and as for Verbenas, I do not care much about them. There are only six or seven kinds of them worth planting out in a bed by themselves; but for mixed borders the *Verbenas* are the best in the world. You have only to make three sizes of them, and plant the strongest size along the back of the border, and keep them to their own share of the border till the spaces between the plants, or, say, the whole border, is quite covered with them; then, if you think a little mixture from the back kinds would improve those in the centre of the border, or next strongest kinds, you may allow *a few* of the runners to mix both ways. That is, let as many of the second strongest run into the back ones as choose to grow that way; but allow only a few of the strongest to advance into the centre, and keep the lowest growers and the most delicate kinds in the front part of the border, and never allow one from behind them to dispute possession with them. Unless these most simple rules are rigidly enforced, a border of mixed Verbenas will soon lose more than half the interest it should return to the owner. Better to plant only a few of the strongest kinds of them, and allow them to push their claims as far and fast as they may, than to pretend to a good selection, and then allow the strong ones to cover and smother the rest. Therefore, although there are some good borders in the experimental garden that might be planted with mixed Verbenas, I did not think it prudent to make the attempt this season; but I shall keep my eyes more open on the Verbenas this season for that very purpose. I shall note the habits and the tints which please me best; and I must have sweet-scented ones, be their habits or tints what they may.

When I may be able to plant one of these borders with bedding Geraniums on the Berlin wool shading style, if I do not take out a patent for the design, I shall print it. After the end of the second week in August I shall not take in any of the old kinds of bedding Geraniums, or other bedding plants,—none but seedlings of the last year or two, and none of either, unless the earriage is full paid to my door, which may seem unreasonable to many; but I look upon the thing in a different light, and I know I shall receive a great deal more than I want; but that need not hinder any one from sending any good kind he can spare, or he may wish to be noticed in comparison with others. I would not undertake, however, for any consideration, that part which many of my private friends suggested, and which is repeated by “Zephyrus” at page 156, about testing the merits of seedlings to be sold by the trade. The very idea of the notion is an apt illustration of the adage that one half the world do not know how the other half live; but I shall prove seedlings to private breeders with pleasure, and tell them the exact value of any seedling in the bed or in the market.

Some very strange incidents have come to my knowledge already about this business. Nineteen hours after the publication of that number of THE COTTAGE GARDENER in which I said that the green-leaved crimson sport from the first Horse-shoe was lost, one of our best gardeners sent me a truss and a leaf of a crimson Gera-

nium more than 200 miles, simply asking, “Is not this the kind you thought was lost?” No, my dear Sir; but it is one which I believed to have been lost more completely. It is a very old one, called *Bentinckianum*, of which there is not a variegated form from which we might expect a green sporting shoot to replace the original. *Bentinckianum* is fully as old as the *Nosegay*; and some one who wished, at that time, cross-breeding to be a monopoly, passed off this cross as a distinct species from the Cape, as was done with the first of the Nosegays.

In 1844, 45, and 46, I had an industrious agent at the Cape of Good Hope, who procured for me any and every thing I mentioned, and more besides. Among the latter was a plant of *Pelargonium cucullatum*, the very head of that section from which every one of the florist's Pelargoniums, without exception, has come down to us. He, the said agent, sent word that a Mr. somebody out there suggested the probability of our getting into a new strain of perpetual blossoms for the garden through this very *Cucullatum*, which has the largest leaf of all the wild Pelargoniums so called. I knew a few instances where relatives of *Cucullatum* were kept in old greenhouses, solely on account of their disposition to flower during the winter; but that did not induce me to look very favourably on straining *Cucullatum* for bedding, and I parted with the plant at the earnest request of a valued friend, Mr. Whiting, of the Depedene Gardens, near Dorking. He said he wished for *Cucullatum* above all others, but for what he did not say; and if I recollect the story, the Eastern Counties Railway people mislaid the basket, or allowed some botanist to “meet it by moonlight alone.” However, I received twelve plants of a “large purple seedling” from a gardener, who says it covers a large space on the back wall of a greenhouse, where he has known it to bloom eleven months out of the twelve. This seedling, which is called after a titled lady, and was raised “before he was born,” seems to me, in the absence of flowers, to be *Cucullatum*, or a very early cross from it, so that the very originals from which bedders and greenhouse kinds have sprung are not so far lost to us as many suppose; and if so, we may yet retrieve the faults of the early breeders, and work out for ourselves new sections and new properties, which will be valuable in the flower garden at least.

I should be glad to receive all the very old kinds of Geraniums in the country for this very purpose; also, any chance seedling which may be used for a particular purpose, although it may be useless in any other way; and I may mention *Harkaway* as one in point. This I received but the other day as “a very striking edging plant,” but of no other use, being a weak, struggling grower, and the individual flower is not worth looking at. Strange to say, one of my own seedlings opened this morning for the first time, and if I mistake not, it will put *Harkaway* on the shelf for ever; but should it turn out a strong grower, it will be of no use save as a breeder.

The most pressing question at this moment is, How do you manage your *pots* after planting out? I put up every size by itself as fast as the pots are emptied, get them thoroughly cleaned inside and out, keep all the cracked ones by themselves for temporary uses as long as they last, and put the rest by in piles of one size only, in stalls, as horses stand in the stable. It makes my hair stand on end to see how some careless people let their pots go to rack and ruin after they once get them empty.

D. BEATON.

PROVERBIAL SAYINGS.—Early in the third week of April I said to a Worcestershire labourer, “I have not yet heard the cuckoo.” His answer was, “No, Sir, it won't be Tenbury fair for four days to come. You

never hear the cuckoo before Tenbury fair, or after Pershore fair." Tenbury fair is on April 20, and Pershore fair is on June 26, which two dates pretty correctly mark the duration of the cuckoo's note.—Here is another Worcestershire saying, *apropos* to the present season:—

"When elm leaves are as big as a shilling,
Plant kidney-beans, if to plant 'em you 're willing.
When elm leaves are as big as a penny,
You must plant kidney-beans, if you mean to have any."
(Notes and Queries.)

HINTS FOR JUNE.

I WILL endeavour to meet a number of inquiries and complaints in this somewhat desultory article.

CINERARIA SEED AND SEEDLINGS.—"We can get no seed from our best Cinerarias; we fear we shall lose them, as the plants, from being rather dry, are getting covered with insects." Place them in a close frame, or box, and smoke them with shag tobacco twice, at an interval of two days from each other, shading them from bright sun in the interval, and for a few days afterwards. Then select a piece of ground on an east or west aspect, dig it finely, and turn the Cinerarias out of their pots, placing a little fine, rich soil round the ball, and sinking the ball so much that the top may be rather below the surface of the soil. Do this only with such kinds as you wish to have seedlings from, or that you wish to grow again next season. Pat the ground fine between the plants, and place all over it half-an-inch of fine, light, sandy soil left loose. If there is any seed at all in the Cinerarias, it will shed and sow itself by its own weight in the fine soil; and to help it when the flowers are all faded, you may give them a good shake, and then water the ground through a fine rose. Keeping clear from weeds, and watering in very dry weather, will be all the attention necessary. By September you will have nice little seedlings, that will bloom in the beginning of winter in small pots. By the same time you will also have fine sucker-plants from the old shoots, which, if potted in small pots, will bloom early, or, if grown on by successive shiftings, may be had of large size in April and May. There is much pleasure in growing seedlings, and many flowers may be had in little room from using four and six-inch pots; but all amateurs, who care not so much for quantity of bloom as having well-bloomed, well-grown, large specimens, should confine their attention to the very best kinds sent out by our best florists, as the most beautiful and symmetrical of these cost no more time and labour in their management than so many seedlings, not one of which may possess any good florist property, though a mere lover of floral beauty might be greatly delighted by them. Those with little room, yet having florist tastes, should do little with seedlings unless for raising new improved varieties, and these should be proved in small pots before they are honoured with larger ones.

CALCEOLARIA SEEDLINGS AND CUTTINGS.—"I had a five shilling packet of seed. I have now a house full of nice-looking, healthy plants, the flowers of all sizes, shapes, and colours, and, I must own, very showy at a distance; but on near inspection the flowers are so flimsy, thin, broad, and notched, that, with the exception of one or two plants with pretty, well-formed flowers, a florist would turn up his nose at the whole of the remainder, and hardly look even at them. The seed was to be the best: do not you think the seedsman is to blame?" Possibly he may; and yet it is equally possible he did his utmost to serve you faithfully. I have had the veriest rubbish from seed saved from the finest flowers. The greatest care in hybridising, and leaving only a few seed-pods on a plant, is the best

security for having good seedlings; but even that will not always be successful in the case of every seedling. No man who made seed-selling a trade could possibly be so careful and supply you with packets, such as he now sends out, for 2s. 6d. and 5s. The great mass of people who purchase these packets are delighted with large, finely-coloured flowers such as you possess. They have not the slightest dislike to the crumples—rather the reverse—that so offend your fastidious taste. The seedsman, though gathering from good flowers, knows he must have quantity, and that an almost imperceptible pinch would not please his customers. Let us just glance at your own case. You have two good varieties; one has a fair flower, and first-rate, compact habit of plant, with the leaves rising well up as a back-ground to the flower; the other plant is rather spindly in its growth, but the flower is fine-formed and beautifully marked. You remove the anthers from a number of the flowers, say half-a-dozen on the fine-habited plant, before their pollen has been shed, and fertilise the pistil from the farina of the higher-coloured flower. You set the plant by itself; you allow none except the hybridised flowers to ripen seed; and you may expect that part of the progeny, at least, will partake of the good properties of both parents. Now, you place a group of the best of your other flowers together; you allow them to hybridise as they like, only assisting them a little at times by daubing the pistil of one with the anther of another, and allowing the plants to ripen almost as many pods as they like. Many of your acquaintances have admired your Calceolarias; tens and twenties jog your memory that you promised them a pinch of seed, and with the characteristic generosity of a lover of flowers, you cannot refuse, even should you be candid enough to say that the seed is not worthy their acceptance. Now, from what repository would you supply your friends? from the small stock of the one plant tended with such care, or from those second best plants, that were allowed to yield a more plentiful supply—plants which pleased those that asked for the seed, and the plants from which were likely to be as good as the progenitors? A candid reply will dispose of many of the allegations against really honest tradesmen, and solve the problem why, at times, though anything but always, their own seedlings may be better-formed flowers than those of their customers. With all the expanded, generous ideas of the times, men have not yet progressed enough to forget self, and not to look at home first. Customers should also bear in mind, when they look upon a fine house of seedlings in the possession of a tradesman, and these to be left for seed, that he only seeds the best of them, as all the inferior flowers would be weeded out as soon as they showed themselves.

All the herbaceous and semi-shrubby Calceolarias are much easier grown from seed than kept on from cuttings and divisions; but, for the reasons adduced above, it will be wise policy, when the seed is not home-saved, to use rather small pots until the plants show their bloom. Just as in the case of the Cineraria, all who are rigid florists, and like to see fine specimens, ought to confine themselves chiefly to approved kinds, and keep these on from season to season by means of cuttings. The best way to do this is to set the plants, when done flowering, on the north side of a fence, and shade them from the afternoon sun, or plunge the pots, or turn them out in a similar place; and take cuttings off in August and September, inserting them under hand-lights in a similar position. The herbaceous kinds, if planted out, will yield suckers or rooted cuttings, like the Cineraria; and these once secured, the old plants may be done away with. The smallest-rooted cuttings, in September, may be grown to any size before the end of May; but in winter they require more care than seedlings, their vitality seeming to be less strong. A

warm temperature and a dry atmosphere are their bane.

SUMMER RESIDENCE FOR GREENHOUSE FLOWERING PLANTS.—I and my coadjutors have the privilege of trying to meet the wants of those who have but little greenhouse room, and who wish to make the most of it, in securing variety during the season. They complain, if they keep *Calceolarias*, *Cinerarias*, *Geraniums*, &c., cool enough, with a sufficiency of air, that they hinder the growth of other things, such as young *Fuchsias*, tender annuals, *Achimenes*, &c., brought from the Cucumber or Melon pit; and that, if they shade to preserve the flowers of *Calceolarias*, &c., other plants get drawn and long-legged for want of light. Remedies in these cases must be found, in a great measure, from generalising or general principles, and growing the plants requiring treatment somewhat alike in groups. Much, however, would be gained, if many of our readers were convinced that, after the end of May, such plants in bloom as those alluded to—*Cinerarias*, *Calceolarias*, *Geraniums*, &c.—will do as well out-of-doors, if sheltered from wind and wet, as in the house, and will require much less attention, and be much less subject to insects. Any sheltered spot, protected with curtains of calico all round, and with tight or glazed calico at the top, to throw off the wet when heavy, will do admirably for all such things; and a stage, if deemed necessary, would show them off to advantage. Sashes placed against a north wall answer admirably for this purpose. In the building of a greenhouse with a sloping roof, it is customary to have a shed for the stock-hole behind, and the same place is useful for potting, keeping soils, &c. Now, in all new erections, I would strongly recommend that at least half, if not all, the roof of such a shed should be of glass; and then lots of deciduous plants, as *Fuchsias*; roots, as *Dahlias*, *Achimenes*, &c., could be kept there in winter; but in May, June, and onwards, such a place being well cleaned, and little or no firing used, and proper platforms or stages employed, *Calceolarias*, *Cinerarias*, *Geraniums*, *Azaleas*, &c., would be much longer in bloom there than in any house with south, east, or west aspects; and no shading would be required. With such conveniences, justice could be given to Vines on rafters; to *Camellias*, and *Azaleas*, and *Epacris*es making their wood; and to the growing of *Achimenes*, *Balsams*, and *Cockscombs*, and tender annuals. To manage all these matters in small space, a house, however small, should be divided.

Hardier plants, such as *Acacias*, *Coronillas*, *Cytisus*, *Genista*, now done flowering and growing, should be placed in a shady, sheltered place, out-of-doors, until they are used to the open exposure, when they should be thoroughly cleaned of all dead flowers, dead leaves, and freely syringed to keep off Red Spider, and placed more in the light; the great thing to be attended to being plenty of water, a sufficiency of pot room, and protecting the pots from the full force of the sun, and housing before frost in autumn.

HEATHS, growing and flowering, will receive little harm from a powerful sun, provided there is a free current of air, and the pots (red in colour) are not exposed to the sun's influence. I have several times taken two heath plants, as near alike as possible; the one with its pot stood exposed to the sun in the open air, the other with its top exposed; but in one case the pot was surrounded by matting, in another the pot was placed on the ground, standing on two bricks, to admit free drainage, and with air round the pot. The protected pot plants never winced; the exposed ones got brown, and several of the shoots were shrivelled. I have also tried various coloured pots without protection: black was worse than red, being hotter in sunshine and colder at night. A light stone-colour seemed to answer best. One reason why all such thrive so well in cold pits, be

they earth, wood, or brick in their walls, is, that the pots, to a great extent, are protected from the sun's rays, and the small fibry roots are not scorched at their points.

This reminds me to add, that any cold pit, or frame, deep enough for the plants, that may have been used for bedding stuff in winter, &c., may now chiefly be converted into a substitute for a hotbed, or a hothouse, by giving to it little air, and busbanding the heat from the sun's rays. Such receptacles are just the place for strong-growing, early-blooming *Heaths* making fresh growth after pruning, when done flowering; *Azaleas*, *Camellias*, *Epacris*es, and New Holland plants generally, when done flowering; for though many of them are hardy enough to thrive all the year round in a common greenhouse, there can be no question that assisting the shoots when growing with more heat and moisture, and then hardening the wood thus made by gradual exposure to all the sun and air our climate will give them at the end of summer and autumn, enables them to receive, as far as our climate will permit, the circumstances they would enjoy in their natural habitats. R. FISH.

FLORISTS' FLOWERS.

THE FUCHSIA.

THE new varieties of this charming flower are, as usual, mostly raised by Mr. Banks, of Clapton. Mr. Story has produced some more varieties with white corollas, which are very beautiful and striking, though, in my opinion, their novelty is their greatest recommendation. After all, a well-reflexed flower, with white or crimson tube, and a deep blue or violet corolla, forms, in point of beauty, the greatest attraction in a *Fuchsia*. The exploits of florists in this flower are really remarkable. The original species had small flowers, with sepals hanging down, nearly concealing the pretty, small blue corolla. Now nothing will pass the florist's ordeal but reflexed flowers of a large size. We have them with white tubes, white sepals, white corolla; there are crimson and scarlet tubes, crimson and scarlet sepals; corollas of various shades of blue and purple; nay, more, we have raised them with double corollas of various colours, and lately some varieties have appeared with stripes on the sepals. All this not only proves the industry of the florist, but also the wonderful variety Nature has stored up in these lovely flowers, which the skill of the cultivator may, by his ingenuity and perseverance, bring to light. The most sanguine raiser of new flowers dares not, I think, assume that he has put those various forms and colours into his seedlings; he must confess that all he has done amounts only to this—that by mixing the various kinds, Nature has allowed the forms and varieties of colour to appear; thus rewarding the cultivator liberally for his pains.

TWELVE SELECTED NEW VARIETIES.

1. *Conqueror* (Smith).—Crimson tube, and sepals reflexed; rich purple corolla. Free flowerer.
2. *Charlemagne* (Banks).—Tube and sepals clear bright scarlet, well reflexed; exhibiting a fine large violet-purple corolla. Good form and habit.
3. *Countess of Burlington* (Story).—Scarlet tube and sepals, the latter well reflexed; corolla well formed, clear white in colour; habit excellent; and a free bloomer.
4. *Donna Joaquina* (Banks).—A large, stout flower, with the tube and sepals of a rich scarlet-crimson colour, the latter beautifully reflected; corolla well formed, and of a clear violet-blue. A fine variety, of good habit.
5. *Emperor Napoleon* (Banks).—Tube and sepals of a rich crimson, the latter broad and well reflexed; corolla cup-shaped, and of a deep violet colour. A fine variety.

6. *Favourite* (Banks).—Bright scarlet tube, and sepals well reflexed; corolla violet-blue. A large and conspicuous variety, of great substance, distinct, and beautiful.

7. *General Williams* (Smith).—Tube and sepals bright scarlet, the latter broad and reflexed; corolla purple, well formed. A free bloomer and good habit.

8. *Prince of Wales* (Henderson).—Rich crimson tube and sepals, stout, and well reflexed; corolla violet-blue. A novel and distinct variety.

9. *Ranunculiflora* (Story).—Tube and sepals of a rich rosy-crimson, reflexed; corolla double, like a *Ranunculus*, and of a pure white colour; curiously distinct and beautiful. The first variety with a double white corolla.

10. *Venus de Medici* (Banks).—Tube clear white; sepals bluish, striped with pink; corolla deep violet-blue; novel and distinct.

11. *Volcana di Acqua* (Banks).—Rich glossy scarlet tube and sepals, well reflexed; corolla clear violet. A fine variety.

12. *Wonderful* (Epps).—Tube and sepals scarlet, well reflexed; corolla well formed, and of a beautiful violet-purple colour. A very large, fine variety.

Price 7s. 6d. to 10s. 6d. each.

TWELVE SELECTED OLDER VARIETIES.

1. *Autocrat* (Banks).—A large, bold, dark variety, tube and sepals dark crimson, the latter reflexed till they touch the tube; corolla smooth, well formed, and of a dark bloody colour.

2. *Clio* (Banks).—A large, stout, and free-flowering variety; tube and sepals white, reflexed; corolla a clear lake colour. One of the best white varieties.

3. *Duchess of Lancaster* (Henderson).—Tube and sepals white, well reflexed; corolla rosy-lilac. A large-flowering and striking variety.

4. *Empress Eugenie*.—Wide, reflexed sepals, of a rosy-crimson colour outside; inside shaded with violet; corolla pure white, novel, and distinct.

5. *Duke of Wellington* (Stokes).—This has proved to be a really good and noble variety. Tube and sepals bright scarlet, tube stout and short, sepals broad and well reflexed; corolla well formed, and of a rosy-purple colour.

6. *Fairy Queen* (Banks).—Tube white; sepals tinged with lemon—the first approach to a yellow *Fuchsia*;—corolla plum colour, distinct, and pretty.

7. *Galanthisflora pleno*.—Pure double white corolla, like a double *Snowdrop*; tube and sepals scarlet, novel, and distinct.

8. *Lady Franklin* (Smith).—Tube and sepals pure white, reflexed; corolla purplish-crimson; sepals broad and well reflexed. Free bloomer and a fine habit.

9. *Mrs. Story* (Story).—Tube and sepals crimson, the latter broad and finely reflexed; corolla clear white. One of the best of its class.

10. *Omer Pacha* (Smith).—Tube short and stout; sepals well reflexed, and of a bright waxy-crimson colour; corolla deep violet-purple; large, of good form, fine habit, free in growth, and a profuse bloomer. One of the best of its class.

11. *Prince Arthur* (Story).—Tube and sepals bright crimson, the latter well reflexed; corolla very double, and well formed. The best double corolla flowering variety yet known.

12. *Queen Victoria* (Story).—Tube and sepals bright scarlet-crimson, finely reflexed; corolla of a lovely clear white colour. A fine variety.

Price 1s. 6d. to 3s. 6d.

T. APPLEBY.

(To be continued.)

THE ADVANTAGES OF HAVING SEEDS AND BULBS FROM DISTANT PLACES.

It is often a source of complaint that certain garden products once good in their kind are not so now. Certainly, the advances made in improving new varieties do, in some cases, tend to discard old ones; yet it is often observable that such old ones were not so good as they had been in the earlier period of their career. This especially refers to the varieties into which most of our common vegetables are divided. I well remember *Potatoes* which were once regarded as the best in quality, and most productive croppers, are so no longer, and have, in almost all cases, ceased to be cultivated, to the great regret of elderly people, who, as usual in such cases, assert that "there are none now to be had so good as they were once." Be this as it may, certainly those varieties in question are not so good as they were, and are not likely to be of much further use at all. Now, in the case of *Potatoes*, it appears that the varieties are, in fact, worn out, and no longer capable of producing vigorous, healthy crops, even when transported to a different soil from that which they have lately been accustomed to, which change, no doubt, did keep them longer in a healthy state than they otherwise would have been; but their time having "come," they must succumb to the common fate of all. But I only mention the above well-known case to show how much longer the existence of the *Potato* was maintained in consequence of the changes it was subjected to in its cultivation; being removed from place to place tended to add new life to it. This is, certainly, the case with many other crops which we are acquainted with, and a little enquiry will throw some light upon a matter not, perhaps, thought of at all times.

Many years ago, the *Onion* called the "Side Bearer," "Potato Onion," and other names, cultivated as it was by its bulbs being planted in the open ground, and producing a proportionate increase of bulbs in due time, was very common amongst cottagers, and great expectations were held out of its utility over the ordinary seed varieties; but it often happened, that after three or four years the crop either became an entire failure, or, what amounted to the same thing, decayed soon after harvesting. This was often a source of great vexation, as the cottager frequently commenced the cultivation with only a bulb or two, the produce of which he carefully treasured up for two or three years, until he had sufficient to plant for his expected consumption, when he had the mortification to find his measures all frustrated by the plants being no longer healthy; in fact, they often died quite out. Now, though I am far from certain that my theory is right, yet I have seen it confirmed by practice in several cases in the matter of *Onions*. They wanted to have a change, and when they had one they were more healthy, for I have seen some of the same bulbs, which produced an unhealthy crop, removed to another locality, and there do as well as could be wished for. This teaches us the importance of having a change now and then; and I am certain most of the cases of failure arose from the neglect of that duty. This, however, is subject to other causes as well. A more move out of one garden into an adjoining one is not sufficient to be called a change, in a general way; therefore, better let the change be to some distance, to a situation differing much in character from the one from which it has been taken; and, though it is too much to expect this production to continue in perpetuity, still there is reason to believe it will continue to be in a healthy condition, when removed from place to place, much longer than if allowed to remain at one, where its constitution will soon fall a prey to disease, engendered by the absence of all counter-balancing agents.

Analogous to this case of Onions is that of *Shallots*, which do not thrive well at every place, and in some cases absolutely die out entirely. When this is the case it is, perhaps, most fortunate, as the cultivator gets his planting stock elsewhere, and, possibly, at some distance, when a fair share of success attends the change, unless some extraordinary adverse circumstances prevent it. This, therefore, proves the propriety of exchanging the bulbs with some one occupying ground of a different quality, and the good result of this I have, on more than one occasion, been witness to.

These remarks I have thought proper to make as a prelude to a similar result being witnessed in *seeds*, which, being produced at one place for a succession of years, become degenerated, and, however carefully preserved from contamination with others of a like kind, eventually fail in producing a healthy, vigorous progeny, or, where it does so, the quality of the variety is deteriorated. I believe this is often felt when the cause is referred to other sources; and although it would take a lifetime to prove it in some cases, there are others in which it is certainly perceptible in a few years, and I think it is in just accordance with the laws which govern the vegetable world. All our esteemed vegetables and other edible productions are but varieties improved upon the original species from which they sprung, and, as such, have a greater or less tendency to return to that original condition again, and I have no doubt many of these would, if allowed to ripen seed which had to be sown on the same spot without artificial assistance. This fact of degeneracy is so well known in the agricultural world that seed-wheat and other corn are changed every now and then by most practical farmers, and the same is often affected by the gardener who buys his seeds from a seedsman, as it is likely to have been produced in some district remote from him. Amongst the many advantages there are in purchasing seeds, there is certainly this good one, and its value must not be underrated, for although the frauds we often hear of in the seed trade may exist to a woeful extent, (and who is more to blame for that than the buyer, who insists on having a cheap article?) still the advantages of having seeds that were produced in another neighbourhood are such as cannot be denied by the buyer; and there is more benefit from this than is generally supposed, and I have no doubt but a still greater improvement would take place in some of the things we hold in greatest estimation, if breeders living at distances from each other were to exchange seeds after effecting a little improvement; for it is possible the improvement once begun would keep going on, were it transported to a fresh place, instead of one and the same individual assiduously struggling against natural difficulties of a kind not easily overcome.

In confirmation of the above, I may state that I have, like many others, endeavoured to perpetuate good varieties of some vegetables with but indifferent success; for, after being improved once or twice, or, say, only once, the variety retrograded again, without my being able to account for it by any of the ordinary causes common in such cases. A good variety of *White Celery* I had some years ago is not so good now, after having produced seed two or three times, although I took good care to select the best plants for saving seeds from. A good kind of *Parsley* fell a prey to a like degeneracy, after being kept some half-dozen years. This, I have no doubt, arises from the fact of the seed being saved too often in the same place, for in neither case was there any likelihood of its being contaminated with any thing of its own kind seeding near it; and some of the *Celery* seed I gave to a friend at a distance has proved better than mine, and I expect, by having it again from him, to continue the improvement, and, perhaps, advance further. Now, this is a wide field, and I should certainly

like to see it carried out in many things where a wide improvement is attainable; and, although it would be folly to expect every cultivator to save his own seeds, yet, by some of the energetic ones having good opportunities, saving a *Cabbage* and an *Onion* of a good kind, and transferring it to another person for a season, and from thence to a third, all parties exercising due care in the selection of good specimens for saving seed from, it is likely a much better article would be produced than if it emanated entirely from one individual and one place.

Much more might be said on this head, but I have said sufficient to call the attention of breeders to the matter, and whether the plant operated upon be a *Caleolaria* or a *Cauliflower*, I have no doubt but the result will be alike more satisfactory when the process of improvement has gone the round of several careful breeders, having the means and appliances different from each other, and every one exercising that due care of preventing the plant degenerating again to its original state, which everything has a tendency to do when not restrained by the judicious means which only the careful and assiduous breeder knows how to apply.

J. ROBSON.

SEASONABLE NOTES ON BEES.

It is said that Boncar, the Scotch apiarian, always took an extra glass on the day when he observed drones in his hives, considering them as sure forerunners of swarming. It often happens, however, that there are no drones in first swarms—led off by the old queens, as noticed in my last—for these do not at that time require the males; but there are always drones in the succeeding swarms, headed by young queens, though they are not bred till a few days after the old queens have left. The strength of the bees and warmth of the weather should be attended to, and hives at this time ought to be watched in the middle of warm days, for swarms may fly off, without much warning, to empty hives or hollow places at a distance. In such cases, however, the bees will have their own way, knowing beforehand where to go; but watching them carefully may be the means of recovering the bees. The second and following swarms seldom act in this way, and never quit the hives without the warning sounds, *keep, keep, off, off*, uttered by the rival queens, the fainter sounds from those in their cells. In general, the bees light upon a branch, which, if it can be spared, ought to be cut down with the cluster, and be placed on the ground, covered with a hive to receive the bees, and removed in the evening of the same day. In that operation there need not be much fear of the bees, for they seldom sting until they have a store to defend. But if the branch cannot be spared, fix a hive over the cluster as soon as possible, for after the bees have settled they will not so readily ascend. As regards the size of hives, much depends on the swarms, time, and pasturage; but it is safer to have them rather under than above the common size, and if they contain clean old combs it is all the better, especially for the after or small swarms. Some object to the plan of putting sticks inside the hives; but they are useful to support the combs when the bees are moved about. One or two swarms are sufficient from a stock—more only tends to weaken it; and little or no produce can be had from a number of puny hives, which is sometimes the case, in spite of great care. With a view to prevent this the stocks should be cool, and if the bees increase fast after the first swarms have left, additional room ought to be given, and the entrances kept as open as possible. What I have just stated holds equally good with hives on the new plan, only it should be done before the first swarms, which are more easily prevented than second ones, owing to the rivalry of the young queens. But swarming will happen at times, in spite of every precaution, for it is the only way that bees increase their species; and if they are not united, or restored to the stocks, it is unjust to blame the novel hives, or expect much produce from them, for that would be only following the old plan under a new name.—J. WIGTON.

NOTES ON BUDDING ROSES.

I HAVE lately been drawing up a few notes on the above subject for the use of a friend, and it has struck me that, as the season for budding is now approaching, a copy of them might be acceptable to some of your readers as well as to my friend. They are selected from various publications on the subject, such as "Rivers' Roso Amateur's Guide," "The Tree Rose,"* &c., with a few hints from my own experience.

I do not attempt to describe the operation of budding, both because it is so well known, and because it is learnt by any one, who is not acquainted with it, so much sooner and better by seeing it performed once, than by a page of directions, but proceed at once to my notes.

The stocks for budding ought to be planted where they are to stand until the head is formed, not later than November, or the first week in December. Those planted in the spring generally send out weakly shoots, and frequently fail altogether the first year, although they recover and make strong growth the following spring. The shoots to be budded having been selected, every other bud upon the stock must be rubbed off as it appears, so as to throw the whole strength of the plant into those allowed to grow. They should not, *generally*, exceed three in number, and should be as close together as can be conveniently obtained, in order to secure a good well-formed head in a short space of time.

In selecting your bud, choose one which is round and full, quite closed, and healthy; out of several on a shoot, those from the centre are to be preferred. The base buds are more likely to be dormant, and those at the top will be weak and frequently a little open. The buds should be taken from an autumnal, not from a spring shoot—in other words, from wood-shoots, not flower-shoots; from shoots which are not going to flower, not from shoots which have borne flowers at their extremities; although these last may do if none other can be obtained, especially if the sort be Chinese or Hybrid. It may further assist in selecting the best to mention, that flower-buds are oval; wood-buds are pyramidal. If a twig of a Rose be sent you, or carried home from a neighbour's garden, and you do not find it convenient to bud it at the moment, place the twig in water, or, what is infinitely better, bury the whole of it in moderately moist earth; this prevents evaporation, and the twig will be preserved fit for use for some days.

When you have cut off your bud, in removing the wood from the shield, begin above the bud, not below, and be careful that the edges of the bark of the shield be smooth and clean, not rough and jagged, or bruised.

Take pains to make the shield fit exactly at the cross cut, as the first junction takes place there by the descending sap.

With respect to the shape and position of the cut in the stock, Mr. Rivers recommends that it be made thus **T**, instead of in the usual manner thus **T**, and he states that buds inserted in this manner are seldom torn out, or broken by the wind, an accident which not unfrequently happens to those budded in the old method, particularly if the bud has made good growth during the autumn.

The material for tying commonly made use of is bast, either common or Cuba; of the two, I am inclined to prefer the common, as possessing less rigidity than Cuba, and yet having sufficient strength for the purpose. Mr. Rivers, however (and his authority is too high to be safely neglected), asserts, that cotton-twist, such as the tallow-chandlers use for the wicks of candles—the finest quality—is preferable to any other material for this purpose. Others of considerable experience recommend lamb's wool, as being more elastic than cotton twist. There is no doubt, however, that any of these will answer the purpose, if properly applied. This is the next point: the bud being properly placed, lay the bast, or other material, across the bottom of the incision (next the stock), and keep crossing it up to the cross cut, leaving the bud peeping out free and unconfined, and tie the knot *under* the shoot; if tied above it holds wet, and may cause the bud to rot. A rhubarb or other leaf may be laid on the top of all the two or three shoots, or a laurel leaf tied to the shoot at both ends, so as to form an arch over the bud.

* "The Tree Rose" is not to be depended upon as an authority.—Ed. C. G.

The ligature may be removed a month or six weeks after budding, or the centre part of it cut just opposite to the bud, and the whole removed three or four weeks later; or the first ligature may be removed and replaced with a broader bast, not quite so tight.

Suppose the bud to have been inserted in July, in the October following the budding shoots should be shortened to eight or ten inches, but not sooner.

In March, or the beginning of April, in the succeeding spring, the shoots must be pruned to the one eye or bud nearest to the inserted bud, and the top of the stock cut close off to the base of the shoot, slanting at an angle of 50°. Mr. Rivers (*I think*) says, that the thickness of stock, left above a bud, should not exceed that of a sheet of writing paper. The author of "The Tree Rose" says:—"In trimming to a bud, barely the thickness of a sixpence should be left above the bud, and the incision should form a slant about equal to that caused by dividing a square from angle to angle."

The wild bud, above named, is to be allowed to grow, until it has got two or three pairs of leaves, and then stopped by nipping off the point with the finger and thumb. The inserted bud will then shoot vigorously, and when it is four or five inches long, the wild bud may be cut off nearer its base, but not removed entirely; nor must it be allowed long side-shoots, but barely left alive to maintain the bark at the end of the branch, and the succeeding March, or even at Midsummer, if vigorous, the shoot may be cut off close to the inserted bud. The tree is then fit for removal into its place in the flower-garden or rosary. In pruning, two, or at most three, buds only should be left upon each shoot of the last year. During the winter, after budding, if the bud has made any growth, it is desirable to tie a light stick to the upper end of the stock, to which the head may be attached by a tie of bast.—*QUIS*.

DESTROYING GOOSEBERRY CATERPILLARS.

I FIND, in THE COTTAGE GARDENER for May 6th, a good deal said about the Gooseberry Caterpillar by Mr. Robert Hogg, of Bogan Green. Now, without offering any remarks about the trouble and expense, in many cases, of using tanners' bark, however well it may answer the purpose of destroying the Caterpillar, allow me to tell you of something that you will find equally effectual for the purpose, and at less than the tenth part of either the trouble or expense.

Take an old earthen jar that will hold four quarts of water, put into that quantity of water one ounce of white hellebore, which you can get from any druggists, and will not cost more than threepence. This quantity will destroy the Caterpillars upon 150 ordinary sized bushes.

The way to use it is—on a dry day to shake up your jar well to mix its contents, then to take out the quantity you intend to use into a basin, and with an old paint or white-wash brush sprinkle the part of the bushes that are attacked.

Observe always to keep the jar closely corked from the air. You will find this a most effectual cure, both for Caterpillar or Gooseberries, and also for Green Fly on Roses, greenhouse plants, or Vines. I have tried it for four years, and at all stages of the Caterpillar, never failing in thoroughly cleaning the plants.—WALTER BALLANTYNE, *Irvine House, Langholm, Dumfriesshire*.

WHITE BEDDING PLANT.

AMONG white bedding plants for early bloomers, will the Editor of THE COTTAGE GARDENER allow "An Old Subscriber" to suggest that he should not omit *Double White Saxifrage*, which she finds invaluable for filling a small bed or edging a large one? It is perfectly hardy, of the easiest culture, increases rapidly, is a very free, constant bloomer, and pure white in colour. The foliage is pretty and compact when out of bloom, and the plant may be moved at all times of the year.

THE CHRYSANTHEMUM.*

WE know that the Chrysanthemum was the Chinese gardener's most favoured flower two centuries ago, and we have the testimony of Mr. Fortune that it is "the Chinese gardener's favourite flower" still. "There is no other with which he takes so much pains, or which he cultivates so well." "The soil used in potting is of a very rich description. About Canton it is generally obtained, in the first instance, from the bottoms of lakes or ponds, where the Nelumbium or Water Lily grows. It is then laid up to dry and pulverize for some months, when it is mixed with old nightsoil taken from the manure tanks found in every garden. A heap of this kind, after being laid up for some time, and frequently turned over, is in a fit state for potting the Chrysanthemum. Manure-water, taken also from the tanks already noticed, is liberally supplied during the growing season, and its effects are visible in the luxuriant dark green leaves which cover the plants."

The first author who mentions the Chrysanthemum's cultivation in Europe is Breynius, who, in the second part of his "*Prodrum Plantarum Rariorum*," published in 1689, describes it as "*Matricaria Japonica maxima* (Largest Japan Matricaria), with most elegant double, rosy, or light red flower." He adds, however, an enumeration of five varieties, namely, the white, purple, dull-yellow, flesh-coloured, and crimson. He and Plukenet say that it was called *Kychnophane* by the Japanese, which further identifies the flower with the Chrysanthemum; for Thunberg, in his "*Flora Japonica*," says, that in Japan this flower is called *Kiko no janna*. It seems to have been lost by the Dutch gardeners soon after Breynius wrote, for no other account could be found when the plant was re-introduced to Europe. This was in the year 1789, when a living plant of the purple variety was brought from China to France, and described by M. Ramatuelle in the "*Journal Histoire Naturelle*," ii. 233. From France it was sent by M. Cels, in 1790, to the Royal Gardens at Kew; but it flowered first at Mr. Colvill's nursery, in the King's Road, in the November of 1795, and was figured in the "*Botanical Magazine*," t. 327. It is the variety ϵ , or Purple Quilled, of the "*Hortus Kewensis*" (2nd edition, published in 1810, where eight varieties are enumerated), and is the earliest parent of those numerous varieties we now possess. The history of the introduction of others of the first-known varieties may be read in Mr. Sabine's paper, published in the fourth volume of the Horticultural Society's Transactions.

The *Pomponé Chrysanthemum* we are clearly of opinion is the *Tsjetti-Pu*, represented by Rheede on the forty-fourth plate of the tenth volume of his "*Hortus Malabaricus*," published in 1699, and under various specific names of *Matricaria* in Ray's "*Historia Plantarum*," iii. 225. It was still more clearly represented by Rumphius, in 1751, in his "*Herbarium Amboinense*," v. t. 91, fig. 1. This dwarf variety of the Chrysanthemum was first introduced into our gardens from Chusan by Mr. R. Fortune, and was distributed by the Horticultural Society, being popularly known, at first, as the "Chusan Daisy."

The little pamphlet which has led us to publish these historical notes is from the pen of Mr. Dale, who so successfully cultivates the Chrysanthemum amid the smoke of London, in the Temple Gardens. The amateur may glean from the pamphlet some useful hints; but we will only extract from its pages the arrangement Mr. Dale recommends for the open borders. The front row, he says, must be of Pompones, and then,

FOR THE SECOND ROW, AVERAGE HEIGHT THREE FEET.

Annie Sulter—Golden yellow; beautifully reflexed.

Australie—Golden yellow; a very pretty, small, free flower.

Bosquet—Rosy carmine.

Changeable Yellow—Buds tinged with red, changing to yellow; charming border flower.

Fortune—Rosy red and orange; very pretty, but rather shy.

Lucidum—White; very early, free, and beautiful foliage.

Madame Comerson—Crimson, tipped with gold; pretty, small, and free.

Plutus—Bright gold; a beautiful flower.

Princess Royal—Rose.

Queen Victoria—Delicate peach; very free, blooms best from old plants.

Racine—Gold and brown points.

Surprise—White; early and free.

FOR THIRD ROW, AVERAGE HEIGHT FOUR-AND-A-HALF FEET.

Astrolabe—Orange nankeen; a very fine border flower.

Cloth of Gold—Yellow; fine reflexed flower.

Cassy—Orange and rose; pretty border variety.

Comte de Rantzau—Crimson; early; the best border flower of this colour.

Gipsy Queen—Orange; very free, early, and good.

Incomparable—Buff; very free.

Jenny Lind—Rosy sulphur; very pretty.

Minerve—Creamy rose; quilled; singular in appearance.

Madame Poggi—Crimson; rather late.

Nell Gwynne—Rosy peach; beautifully reflexed.

Princess Marie—Rose; early and fine.

Weeb's Queen—Light rose; early and good.

FOR FOURTH ROW, HEIGHT ABOUT FIVE-AND-A-HALF FEET.

Chevalier Dumage—Bright gold; splendid border flower.

Gluck—Golden orange; Anemone form.

Hermine—Blush; petals striped up the back with purple.

Leon Leguay—Lilac.

Pio Nono—Indian red and gold tipped.

Poudre d'Or—Reddish orange; early and free.

Queen of England—Blush; a splendid, free, early, border flower.

Queen of Yellows—Brassy yellow; a pretty reflexed flower.

Sydenham—Carmine red; a pretty border flower.

Themis—Rose; beautiful, but rather late.

Trilby—Blush; free and full.

Versailles Defiance—Bright rosy lilac; very pretty.

FOR FIFTH ROW, HEIGHT SIX FEET.

Anazo—Red orange; very handsome in border.

Arigena—Amaranth; fine, but rather late.

Decreque—Red; very free, blooming in clusters; beautiful for borders.

Formosum—Pale sulphur; very free and pretty.

Gem—White, tipped with rose; very free.

Lysias—Red orange; early and free.

Le Prophete—Golden fawn; a fine, free, full, border flower.

Prince of Wales—Fiery red; small and free.

Temple de Salomon—Bright yellow; free and splendid for borders.

Vesta—Ivory white; one of the oldest and best, very free, and splendid.

Weeb's Delight—Very rich canary.

Warden—Orange.

FOR SIXTH AND BACK ROW.

Beauty—Peach.

Christine—Peach; very free and full.

Dac de Conigliantia—Fiery red; very free.

Duke—Blush.

Doria—Orange; large, free flower.

General Mareau—Large dark buff; very bold.

Goliath—Large white.

Marchioness—Large loose white; very free.

Madame Bouchardet—White; free.

Norfolk Rinal—Light lilac; free.

Orlando—Rosy buff.

Tassel—Yellow; an old loose variety, capital for back row.

BITTER CUCUMBERS.

IN a recent number of THE COTTAGE GARDENER, one of your correspondents complains of bitterness in his Cucumbers, and wishes to know the cause. We have, in our time, had complaints too, and the only conclusion we could satisfactorily arrive at is, that it is entirely owing to the want of sufficient moisture, at the same time being exposed to the full influence of hot sunshine. Cucumbers, being of a very succulent nature, delight in plenty of moisture, both at the roots and in the surrounding atmosphere, and we have always found that by paying proper attention to this there has been no cause to complain, or, in fact, anything said about our Cucumbers being bitter. We grow them winter and summer, and have had ample experience to confirm what we have stated.—PROGRESS AND PROTECTION.

[We have not changed our opinion upon the subject to which you refer in your P.S., but the dispute is fruitless; and be assured that no gardener will ever be remunerated for the expense of a patent for any improvement in the structures, implements, or practices of his art.—ED. C. G.]

* The Chrysanthemum, with particular reference to its Cultivation in or near Large Towns. By J. Dale, Gardener of the Middle Temple. 1856.

NOTES ON THE WILD POTATO.

NOTWITHSTANDING all the researches that have been made into the origin of the truly Wild Potato, doubtful and contradictory evidence still obscures its history. Not to notice the old rejected statements on this subject, we find Meyen ("Botanical Geography," p. 312, Eng. ed.) giving as its native stations the whole western side of South America, mentioning, that he himself found it wild in two places on the Cordilleras of Peru and Chile; and adopting the evidence of the Spanish botanists, Ruiz and Pavon, that it occurs wild on the mountains of Chancay; but pronouncing positively, as it would seem on the authority of Humboldt, that it was not cultivated by the Mexicans before the arrival of Europeans. It is not, however, absolutely certain that the plants found by Meyen and the Spaniards were really wild; Mr. Darwin obtained much better evidence upon the subject during the voyage of the *Beagle*. In latitude 45° S., on the east coast of South America, there is a clustre of islands, called by geographers the Chonos Archipelago. "The Wild Potato," Mr. Darwin states, "grows on these

islands in great abundance, on the sandy, shelly soil near the sea-beach. The tallest plant was four feet in height. The tubers were generally small, but I found one of an oval shape, two inches in diameter: they resembled in every respect, and had the same smell as English Potatoes; but when boiled they shrunk much, and were watery and insipid, without any bitter taste. They are undoubtedly here indigenous; they grow as far south, according to Mr. Low, as lat. 50°, and are called Aquinas by the wild Indians of that part; the Chilotan Indians have a different name for them. Professor Henslow, who has examined the dried specimens which I brought home, says that they are the same with those described by Mr. Sabine, from Valparaiso, but that they form a variety which by some botanists has been considered as specifically distinct. It is remarkable that the same plant should be found on the sterile mountains of central Chile, where a drop of rain does not fall for more than six months, and within the damp forests of these southern islands."

There can here be no mistake. A naturalist like Mr. Darwin could not but know Potatoes when he saw them; and the whole history of their occurrence is exactly that of a wild plant. It is, however, very certain that in Chile itself the Potato is really wild, in the latitude of Valparaiso, for it is described under the name of Maglia by Molina and others; and this Potato, sent to England by Mr. Caldeleugh in the year 1822, and grown in the Garden of the Society, is no more distinguishable from our cultivated varieties than they are from each other. It is true that it has been separated botanically, either as a race or species, under the name of *Solanum Commersonii*; but specimens of this Maglia now before me, gathered in the Garden in 1825, are unquestionably those of the species now cultivated all over Europe.

Dr. Hooker ("Flora Antarctica," ii. 330) extends the range of the Wild Potato by including Peru, Mendoza, and Buenos Ayres, the Maglia reaching quite across the continent, and growing about Buenos Ayres in hedges. The last statement is upon the authority of the late Dr. Gillies; but as it is not quite certain that the plant he found in such situations is really the Maglia, it seems better to limit the undoubted locality of Wild Potatoes within the parallels of 30° and 48° S. lat.

This supposes that the Potato is not found truly wild in Peru, but that all the northern localities mentioned by authors are those of the cultivated plant. Upon this supposition the Wild Potato has not, as far as I am aware, been brought to Europe since the Potato disease broke out; and if so, experimental proof that the wild South American sort is free from disease remains to be obtained.

But I believe myself to be in a condition to show that it is a mistake to say that the cultivated Potato, that is to say, *Solanum tuberosum*, is unknown in a wild state in Mexico. To the kindness of Mr. C. A. Uhde, a German gentleman, who has resided for many years in the west of Mexico, the Society has been indebted for various samples of Wild Mexican Potatoes, among which two varieties have been raised, which are undoubtedly mere forms of the true Potato, as will be hereafter mentioned.

Tubers of another kind were received, July 25th, 1846, from Michuacan and the Valley of Toluca; and again in May, 1847, in a packet marked "Native Mexican Potatoes from an elevation of 8000 feet." These produced a tall species, whose stems and leaves were very hairy, so as to have a somewhat hoary appearance. The plants had a strong tendency to produce a vast number of runners, but scarcely any tubers. The few that were occasionally



Solanum demissum.

met with were very small. Some were found an inch-and-a-half in length, and an inch in diameter; but generally they were not larger than the seeds of Kidney Beans. Their form is somewhat obovate, tapering to the end attached to the runner; and their colour was whitish. They exhibited no symptoms of disease.

This Potato is also, I think, a mere variety of *Solanum tuberosum*, with which it agrees in everything except its excessive hoariness, and its unwillingness to produce tubers. When placed by the side of the Maglia of Chile, there is no apparent distinction. It seems to be a white-flowered variety of the *Solanum verrucosum*, figured by Professor Schlechtendahl in his "Hortus Ilalensis," Fig. 2. His plants were raised in the Halle garden from tubers sent from Mineral del Monte by Mr. Charles Ehrenberg, upon whose authority it is stated to be common by pathways in woods, among ruins of walls (*in muris*), and elsewhere. I am unable to discover any botanical distinctions between this *Solanum verrucosum* and another wild Mexican plant, published by Schlechtendahl and Bouché in the "Verhandlungen des Vereins zur Beförderung des Gartenbaues in den Preussischen Staaten," vol. ix. p. 317. That plant was from the Volcano of Orizaba, at an elevation of from 10,000 to 11,000 feet, where it is said to be known by the name of "Papa cimarron." The authors just mentioned call it, indeed, *Solanum stoloniferum*, but it is not so different from *S. verrucosum* as many cultivated Potatoes are from each other.

In addition to the foregoing, which appear to prove conclusively that the Potato is either wild in Mexico or has become so, two very different Potato-bearing plants were received from Mr. Uhde.

The first of these was marked "Native Mexican Potatoes, growing at 8000 to 9000 feet elevation." This proved a particularly dwarf sort. It was planted May 2, and was in flower in the end of June. Its flowers are produced close to the ground, and fruit soon succeeds them; branches then push up, and blossom at the height of twelve to fifteen inches.

The foliage and stems have a grey appearance; and yet the hairs upon them are inconsiderable in number and much scattered. The leaves are from four to six inches long, pinnated like the Potato, and often with numerous small leaflets placed between the larger ones; but many leaves consist of large leaflets alone. The latter from two to three pairs, with a terminal odd one; they are extremely blunt, broadest at the end, flat, and perfectly sessile.

The flowers are nearly an inch across, and bright violet, arranged in loose terminal dichotomous somewhat scorpioid racemes. The calyx is hairy, and is 5-cleft with acute triangular acuminate teeth. The corolla is 10-toothed, with a nearly circular outline, and reflexed so as to hide the calyx. The stamens are small in proportion to the size of the corolla, and shorter than the style. They are succeeded by smooth globular berries about as large as a black currant. Very few tubers were formed. Many stems had none; and where they did occur they were small, flattened, somewhat kidney-shaped, and of white colour, with white, crisp, semi-transparent flesh.

This appears to be distinct from the Potato, and may be called *Solanum demissum*, because of its dwarfness. It was attacked by the disease in July. The stems exhibited the characteristic blotches in a worse degree than any other sort in the Garden. The runners were also affected.

Amongst the "Tubers of Mexican Potatoes growing at 8000 to 9000 feet of elevation," which proved to be chiefly the two sorts last mentioned, there was a plant entirely



Solanum cardiophyllum.

different from either. It had an erect stiff stem, about a foot in height, very dark-green heart-shaped leaflets, and small cream-coloured flowers, much like those of the Black Nightshade (*Solanum nigrum*). It formed very small roundish white tubers, which were less watery than the last, and it was not attacked by disease. From its having been found mixed with other samples of Potatoes, it had probably been gathered accidentally.

This species, although producing Potato-like tubers, and belonging to the same section of the genus as the true Potato, can in no way be confounded with it. It does not appear to be of any value, but deserves to be put on record as a curious new form of the genus. Its deeply heart-shaped leaves render the name *S. cardiophyllum* appropriate.

In addition to the foregoing, packets were also received from Mr. Uhde, labelled, "Tubers of a Potato, found growing wild in Mexico at 8000 feet elevation, possibly brought from Peru;" and "Tubers of a Red Potato found in Mexico, supposed to be Peruvian;" a third packet contained some "Red Potatoes, like Peruvian." These all proved to be a

small, but productive sort of Potato, round and pink-coloured, very like the Azores variety. Amongst them one plant had white kidney-shaped tubers. Their stems and foliage were much like those of some varieties of the common Potato, and distinct from the others imported from Mexico along with them. They were all affected slightly by the disease.—*Dr. Lindley in Hort. Soc. Journal.*

THE HOUSEHOLD.

A NEW WAY OF COOKING A TURBOT.—It often happens, in private families, that a present of a turbot and lobsters is received, little thought being given by the donor that there would be no means of cooking it. The first difficulty is the kettle; and the next, the fire-place that would hold it. The other day I was rather puzzled to get over this difficulty, the more so, as a quarter, or half, would not be sufficient for the party, one of whom was the friend who gave it, or else I might have exchanged it for some salmon, &c.

I proceeded thus:—Having cleaned and removed the scales, &c, I cut off the head, and with a thin knife removed the back skin; I then cut off all the thin part, with the small bones at the sides, tail, &c.; I then cut the back straight with the spinal bone, inserted the knife under the flesh and close to the bone, and removed the flesh free from bone the other side, and did the same, and then the belly; I had thus four fine pieces of turbot free from bone. The bone had still some flesh about it, which I removed, and made use of in another way. I then broke the bone into pieces, placed it with the head, skin, &c., into a stew-pan, with a quart of water, two cloves, and allspice, a little salt, one onion, and let it boil on the fire, adding, from time to time, more water; at the end of the three hours I steamed it off, and got a pint-and-a-half of good, strong fish-stock. This was done the day before I wanted it. The turbot I placed in a round, tin baking-dish (which, by-the-by, is a difficult thing to obtain in England; those I have got I bought in France, and they have been in use these six years, and look as if they would be serviceable the same number of years yet); having first buttered the bottom of the dish, the back part I placed first, and then the belly, skin upwards, with a little butter between each piece; these I placed in the oven an hour-and-a-half before dinner; I found they were well done in thirty-five minutes. I then removed all fat from the top of the fish-stock, placed it in a stew-pan, and gave it a boil, with a table-spoonful of sherry wine; I then added about half a gill of good cream, a small piece of butter, gave it a boil, and then broke the yolk of one egg into it, gave it a stir, and placed it by the side of the fire until ready for it. With the lobster I made sauce, keeping the spawn for decorating the turbot; when ready to dish up, I poured the white sauce over the turbot, decorated the top with cut lemon, horse-radish, and the spawn, and a most delicious dish it was; which, if served in a silver dish, could be placed before the greatest epicure. It might be decorated with a few caper and anchovies.

One thing to avoid is that the oven should not be too hot, and if so, to cover the top with paper, so that the fish should not get dry or hard. A turbot is much better for being some days kept before cooking. This dish warmed up equally as well as the first day; and then what remained made a beautiful salad. I feel convinced that this is the proper way to cook a turbot; although the gourmand's part, the fins, are not there, yet they exist in the delicious jelly of the sauce, which I believe to be exceedingly nourishing, and well worthy the attention of medical men.—W.

QUERIES AND ANSWERS.

GARDENING.

FAILURE OF EARLY CUCUMBERS.

"They are in a frame fourteen feet by six feet, and have had a constant heat of 70°, or, at all events, never less than 65°, with a bottom-heat (obtained by hot-water pipes) of some ten more. They were stopped when the first rough leaves appeared, have grown very vigorously, and have

throw out plenty (as far as I and my gardener can see) of bearing laterals. They fruit well; but as soon as the young Cucumbers get about half-an-inch long, and a day or two after the flower drops off, the end gets yellow, and they die. I am afraid that I shall have no mature fruit until the second lot (in a dung hotbed) comes on, which will not be for six weeks or two months. The stem seems to me to be rather long, about four inches from the lateral to the end of the young fruit; perhaps this has something to do with it. The aspect of the frame is due south, and the plants are shaded during the heat of the day. When should *Auriculas* and *Carnation* seeds be sown?—JAMES R."

[We are not sure, but we suspect that there are two causes, one of which may be the reason of your disappointment. First, have you not been growing a hardy, short Cucumber, for which the heat would be too much? We once got Gherkins in mistake, and they would not stand the heat, and the fruit were inclined to go off a little as you say. This idea struck us from speaking of your fruit half-an-inch long, as long house kinds, long before the flower falls, are several inches in length. The other cause is dryness at the roots. We have found this the case when bottom-heat was given by pipes, &c. Examine and make sure that the soil over the heating medium is moist enough. The fruit is tenderer than the foliage, and shows it first. A space of rubble should intervene between the heating medium and the soil.]

Sow *Auriculas* and *Carnations* in a slight hotbed directly. It would have been better if it had been done two months ago.]

HEATING BY GAS.

"Mr. F. J. Lawrence's letter on gas boilers, &c., in THE COTTAGE GARDENER, has just stopped me taking away my gas pipes, which I had laid for the purpose of heating my water by gas instead of coke. I found it cost me fifty feet of gas per hour, and could not stand this. But my boiler is a cast-iron saddle one, and I may not have got a good kind of burner to set it a-going. The burner I used was the shape of an oval, with, perhaps, one hundred jets from it. It blackened the boiler very much, and was very expensive in its working by gas. The cost of coke was very little; but the great objection to this was my being necessarily often out, and being my own stoker, I could not trust my servants with the same. My present pipes, flow and return, are two inches, the flow rather larger. Do you think the kind writer of the letter above alluded to will answer the question annexed? if so, I shall feel under still further obligations to both you and Mr. Lawrence.—L. R. LUCAS."

[Mr. Lawrence has obliged us by the following reply to the above inquiry:—

"If I understand Mr. Lucas's letter right, he wants to know whether a boiler, similar to the one I have in use, can be attached to his 2-inch pipe, and also whether the jet is fixed to the boiler. He can have his pipes fixed to the boiler alluded to in my letter; but I would advise him to have the boiler of the size last made for me, the cost of which was £4. The jet is part of the boiler, and is included for the above-mentioned price, and will burn, when on its full, about six or seven feet per hour. These boilers are only to be had of Messrs. Smith and Phillips, Skinner Street, Snow Hill, who have taken out a patent for them.—FREDERICK J. LAWRENCE."

TIME BETWEEN SOWING CABBAGE SEED AND CUTTING THE HEADS.

"If *Atkin's Matchless* Cabbage seed be sown at the commencement of July, about what time in the spring of 1857 would they be ready for market, having good firm heads? Is there any good hearting kind that is earlier?—G. TASKER."

[Much depends upon the soil, season, and culture. On a rich loam, well cultivated, *Atkin's Matchless*, sown in the last week of July, will produce plants varying so much in their rapidity of growth as to produce good heads from October to February. We know of none better for an early crop.]

GERANIUM COLUMBINUM.

"The Vale of Pewsey, in Wilts, is remarkable for its profusion of wild flowers. From the time the Snowdrops fill some of the woods, till the Campions and Geranium pratense disappear, the coppices are carpeted, and the banks and hedges enamelled with flowers in vast variety. The plant I send, plainly a Crane's-bill, grows in a bank which is dazzling to the eye, at this moment, with Campion, Stitchwort, Bluebell, Speedwell, Mouse-ear, Geranium Robertianum, Geranium molle, Geranium columbinum, and here and there a plant of *Erodium cicutarium*. This plant I did not see there in former years. Now, for about thirty yards of the length of the bank, it is abundant. Its bright purple colour, long calyx, and very long flower-stalks (generally coming from the root), and its dark green, smooth, hard-looking leaf, distinguish it very decidedly from any species I have seen, and from all figured or described in Smith and Sowerby's English Botany.—M. A. G."

[The *Geranium dissectum*, or Jagged-leaved Crane's-bill, and the *Geranium columbinum*, or Long-stalked Crane's-bill, are both nearly allied to each other. One might say that in *dissectum* the flower-stalks are shorter than the leaf-stalks, which is not the case in the specimen sent, for here the flower-stalks are the longest of the two, and the capsules hairy; whilst in the *Geranium columbinum* the flower-stalks are longer than the leaf-stalks, and the capsules are quite even and smooth. The specimen sent shows nothing of the capsule, therefore we cannot avail ourselves of that test; but under all circumstances, and from its adpressed, hairy stem, long flower-stalks, &c., and allowing a little for gross growth and other variations, which all plants are more or less liable to, having had all the English Geraniums through our hands and before our eyes many times, we certainly think your plant is the *Geranium columbinum*, and not the *dissectum*.]

TO CORRESPONDENTS.

SEEDLING GERANIUMS (P. G.).—Our decided opinion is, that your seedling is among the very best of the new variegated Geraniums as far as can be judged from leaves and trusses. If it stands the sun and rain, and is of a good, free habit, we know of none better.

HEATING ORCHARD-HOUSE (G. A.).—Why not use cast-iron piping? It would be very little dearer, and much less liable to accident than piping of galvanized iron. Buy "Greenhouses for the Many;" it will give you, for sixpence, all the information you need.

GOLD FISH (S. T. G.).—How can we tell why they died when you do not tell us how you kept them, nor a single symptom attending their death? Does the part of the paper we publish to-day throw any light on the subject?

ANTS (Vermin).—Try watering their haunts with lime-water, and the other remedies suggested in previous volumes.

SEEDLING UNIQUE GERANIUM (S. W.).—Your seedling is very pretty indeed, and is different and distinct from the mother; yet it is not a cross, but merely a variation. It is too near the mother in resemblance to be useful as a trade plant or bedding plant. Its real value is as a pot plant for in-doors, and for its fertility of pollen in a sterile section. You should call it *Wright's Pet*. It is the most likely of them all to induce the *Shrubland Pet* to seed. Two such pets, if they would but breed, would do wonders. The large-leaved purple kind is closely allied to *Cucullatum*, the Eye of the florists' Geraniums.

GERANIUMS FOR BEDDING (J. B. W.).—Mr. Beaton says, "Twenty plants will not cost more in carriage than two plants; therefore, I think it better not to specify or tie down any one to 'particular kinds.' The 'great guns' have sent one of every kind, and when the one hundred and one 'rounds' are fired, who knows but among the odds and ends will be found the most valuable of all the contributions? But I 'specify' *Pelargonium peltatum roseum*, the running Pink Ivy-leaf. What I have been growing for it, since last October, has just flowered, and turns out to be *Violaceum*, instead of *Roseum*. I want the latter to cover the rafters of a conservatory, after the fashion introduced by Lady Southampton, which they have 'took to' at the Crystal Palace. I will also 'specify' *Peltatum purpureum*, the only inveterate seeder among the Ivy-leaves. *Peltatum violaceum* is not a bedder, but is a good rustic basket plant to run over the edges, as it flowers freely when old, and is thus partially confined at the roots, as all basket plants must be as compared with the freedom of the beds."

SEEDLING CALCEOLARIAS (G. A.).—"Your hamper came quite safe, and I am very much obliged. They are just the things for a bed, and you shall hear all about them after a while; but why not give your real name? Your letter is filed, however, with all on this subject. If we could return herrings for sprats you would come in for a real Caithness. We are out 'a fishing,' at all events.—D. B."

SUPER-PHOSPHATE OF LIME (R. C.).—It is prepared by treating ground bones with sulphuric acid (oil of vitriol).

SOWING BERBERIS ASIATICA (Fence).—If we had any seed we should sow it now, though it ought to have been in the ground two months ago. It requires a light, well-drained soil. As you purpose sowing where it is to remain, dibble it in half-an-inch deep and three inches apart. You can thin out the plants where too thick.

MANGOLD WURTZEL SEED FAILING (Paddy Green Crop).—We should like to have specimens of the grubs or worms that eat out the centre of this seed. We heard similar complaints last year. Try sowing again, soaking the seed in weak manure-water for twenty-four hours before sowing. This will hasten its vegetating.

NAMES OF PLANTS ().—1. *Asplenium filix-femina*; the red-stemmed variety. 2. *Cystopteris fragilis*. Your *Hymenophyllum unilateralis*, or *Wilsonii*, is, probably, not growing in a well-drained soil. (*Quis*).—*Ceanothus azureus*. (*Funny*).—*Menyanthes trifoliata*, common Buckbean, or Marsh Trefoil, one of the most beautiful of our native flowers. (*R. H.*).—*Lonicera Ledebourii*, Ledebour's Honeysuckle.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

HULL AND EAST RIDING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peek, and J. S. Marshall, Esqs. Entries close July 24th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spence, Nottingham.

PRESCOT. July 8th. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

THORNE (Yorkshire). June 18th. Sec. R. S. Jewison, Esq. Entries close June 11th.

WHITBY. July 16th and 17th. Sec. S. Burn, Esq., 1, East Terrace, Whitby. Entries close June 30th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

EXETER POULTRY EXHIBITION.

On the 29th and 30th of May, this Society of Amateurs held its accustomed meeting for the improvement of domestic poultry, and also the distribution of premiums of far greater intrinsic value than those offered here for public competition in preceding years.

It will be seen that the day selected for the general rejoicings consequent on the restoration of Peace, and those of this Society's Meeting, were identical, besides being combined with the additional attraction of a view of the Exeter Floral Society's Meeting. All contributed to increase the attendance, and very few poultry shows have taken place under more auspicious patronage. The first day proved a general holiday—festivities and good humour abounding on all sides; indeed, we cannot permit the present opportunity to slip by without recording the spontaneous act of liberality of the citizens of Exeter, who contributed considerably above one thousand pounds to provide the neighbouring working classes with a public dinner suitable to the occasion, of roast beef, plum pudding, &c., &c. Above ten thousand persons availed themselves of the hospitality thus offered to them. At earliest dawn, the continuous firing of cannon proclaimed the approaching festival, and that nothing might be wanting to contribute to the pleasures of the assembled multitude, a visit to the Poultry Show was permitted by the Committee, and most gladly availed of by extraordinary numbers.

All the streets of Exeter were gay with banners bearing various inscriptions. Among these we particularly noticed, "Peace brings plenty," and "Make your neighbour happy, it will make you so too." The shops being, without exception, closed, and business suspended, the streets were thronged to excess, but considerable difficulty existed in passing, from the incredible quantity of Firs, and other evergreens, that were temporarily arranged along the sides of the footpaths, to appear as though growing there. Many of these being the Larch Fir (the branches of which spread far and wide), they offered very serious and continuous impediments to locomotion, more particularly in

those streets where the largest quantity of banners caused the greatest congregation of sight-seers. Still, all parties seemed most desirous not only to enjoy themselves, but also to make others happy, and the best possible order and good feeling prevailed.

To return to the Poultry Show; this occupied a long series of terraces, called Northern Hay, and it has rarely fallen to our lot to visit any locality so peculiarly well suited for the purpose. It forms "the public walks" of Exeter, and not only tends much to the enjoyment of the inhabitants, but also carries throughout the air of great care, order, and close attention. Trees of many years' growth embower it on all sides, and the view is very picturesque and extended. On one of the extensive lawns a military band much enlivened the proceedings of the day, by playing many popular and warlike airs. On this occasion, the Committee deviated widely from generally-accustomed practice, by the appointment of six gentlemen as judges. They were as follows:—The Rev. T. Sydenham, of Collumpton; Rev. — Huyshe, of Clythidon; Rev. H. K. Venn, of Honiton; Dr. Scott, of Saint Leonard's, Exeter; Edward Stamp, Esq., of Honiton; B. Kingdon, Esq., of Exeter; and Edward Hewitt, Esq., of Spark Brook, Birmingham. The latter gentleman was appointed umpire or general referee.

As to the poultry, the whole Exhibition proved how sadly unfavourable the present season has been for the production of *early* chickens; indeed, the *Cochin chickens* were represented by one solitary pen of youngsters scarcely larger than Quails. In this instance they were, of course, unrewarded by a premium, being all but destitute of feathers, and, indeed, but ill supplied with chicken down. The *Spanish chickens* were also very small, but several pens of *Grey Dorkings* were somewhat more advanced to the ordinary size we are now generally accustomed to meet with at the end of May; still, we confess our disappointment at the immature character of the chickens as a whole.

In the adults were many most creditable and deserving specimens, but, from the somewhat advanced breeding season, the plumage of the fowls was scarcely equal to that of Poultry Shows in general. The *Spanish fowls* were tolerable specimens, as a whole, but none of them were considered worthy of "the Cup." This principal premium was, therefore, withheld from them altogether. The chickens, also, obtained only a second prize, from their immaturity. The *Grey Dorkings* were very good, and all the premiums were awarded. We think we cannot do better than here call attention to a pen otherwise creditable, but containing a cock with a most extraordinary malformation; the spurs growing directly from the *outside* of the legs. Such monstrosities must always defeat the wishes of exhibitors, and should invariably be carefully avoided altogether. Another instance of unwise selection occurred from mating rosy and flat combs in the same pen of Dorkings. This indiscretion must likewise tend to immediate disqualification. The *Cochins* were very good; indeed, in our somewhat extended experience, we never remember to have seen so universally praiseworthy a class as that for the Partridge-coloured ones, and well may the Reverend gentleman who obtained the plate prize be proud of his distinguished position in the list. All the *Game* were very good, but we still see the constant malpractice of not paying any attention to matching the colour of the legs; hence their defeat. Several pens were thrown out of all chance of winning by their owner's thoughtlessness in this single particular. The *Hamburghs* and *Polands* contained many very superior specimens. There were some very good *White Spanish* fowls exhibited in the extra class. The *Schright Bantams* were superior, and of the *Black* ones we must speak in terms of like commendation. Among the Bantams, we particularly noticed a pen of very small *Rumpless Bantams*, quite unique in our present Poultry Shows, though, from some enquiries instituted on the spot, we find the breed has existed in this neighbourhood for many years. Still, this is the only instance on record of their being thus publicly exhibited. They were well matched, small, and pretty. An extra first prize was awarded them. The *Turkeys* were most excellent, but the *Geese* and *Ducks* were far below mediocrity. The *Pigeons* were very superior, but contained no varieties but those we customarily meet with in competitions of like character.

The attention paid by the Committee to the poultry generally was all that the most anxious amateur could desire; indeed, the whole Show carried with it the appearance of comfort and sufficiency. Green food was liberally supplied, and we do not doubt all the specimens enjoyed themselves to the utmost, consistent with their safe imprisonment for the public inspection. The pens were far more roomy and convenient than is ordinarily met with, and each and all were placed in equally good light; a feature that on such occasions should never be neglected. The attendance of the surrounding gentry was very general.

We published the poultry prize-list last week, and we now add that for the Pigeons.

CARRIERS.—First, Mr. Samuel Summerhayes, Taunton.

ALMOND OR ERMINE TUMBLERS.—First, Mr. W. L. Channing, Heavitree, near Exeter.

FANTAILS.—First, Mr. Edward H. Burge, Taunton.

JACOBINS.—First, Mr. Edward H. Burge, Taunton. Second, each, Mr. Samuel Summerhayes, Taunton, and Charles Bluet, Esq., Taunton. (Yellow.)

POUTERS.—Second, Mr. Samuel Summerhayes, Taunton. (First prize withheld.)

NUNS.—First, Mr. Thomas Twose, Bridgwater.

BARBS.—First, the Rev. G. F. Hodson, North Petherton, near Bridgwater.

TRUMPETERS.—First, Mr. Thomas Twose, Bridgwater.

ARCHANGELS.—First, Mr. George Hopkins, George-street, Plymouth.

OWLS.—First, Mr. Edward H. Burge, Taunton.

TURBITS.—First, Mr. Edward H. Burge, Taunton.

RUNTS.—First, Mr. Henry Child, jun., Sherbourne Road, Birmingham.

EXTRA.—Prize, Mr. W. L. Channing, Heavitree, near Exeter. (Pair Yellow Beards.) Prize, Mr. W. L. Channing, Heavitree, near Exeter. (Pair White Dragons.) Prize, Miss Selina H. Northcote, Upton Pyne. (Pair Magpies.)

CHANGE OF COLOUR IN A FOWL'S PLUMAGE.

I WAS much interested in the paper read by Mr. Williams. My impression is, the colour of the plumage is affected by the condition of the bird. I keep Gold-laced Sebright Bantams, and have always noticed that at this time of year, when the hens have been laying a long time, and are to a certain extent exhausted, the lacing becomes more indistinct than earlier in the year, and the ground-colour becomes faint. If a little knot of feathers is pulled out of any bird three or four times in succession, as fast as produced, they will generally come lighter than the original colour, and very often quite white. I think this indicates debility, and that the producing power is becoming weak. It is a recorded fact, that Black Pigeons, confined for a given time in a loft, from breeding in, become quite white. My impression is, that such changes indicate that a renovating process is necessary.—A YOUNG OBSERVER.

HAMBURGHS AND COCHIN-CHINAS.

I THINK the interchange of opinions and experiences one of the most useful points of a Poultry Chronicle, and the kindly spirit in which "Felix Rabbit" and "Silver Hamburgh" enter into it imparts a real charm to their contributions.

I have also kept both breeds with tolerable success, and now put my notes before the public. Cochins do not lay the largest number of eggs, but they sit. Hambro's do not sit, but they lay more eggs than Cochins. Cochins lay better in winter than Hambro's, but they are larger consumers of food. I blend the qualities of the rivals. My Cochins lay in the winter, when I want eggs; they sit in the early spring, when I want chickens, and when other fowls lay. My Cochins often lay soon after hatching, but from that time I find them sorry mothers. I cannot think rice good food, as my birds never do well upon it, and I have long since discarded it. When any one will take the pains to measure food and weigh eggs, the Hambro' will be found the cheapest producers of eggs that we have in the poultry list.—AMATEUR.

COCHINS *versus* HAMBURGHES.

I THANK "Silver-pencilled Hamburg" for his information and his courteous comments, and then would like, as courteously, to criticise his criticisms. First, I would state, that I neither had, nor have, any intention of maintaining either that Cochins *always* excel other breeds in productiveness, nor that my Cochins were more prolific than other people's. I only wished to show to persons in like situations to mine, that Cochins would furnish eggs more cheaply than would the neighbouring greengrocer.

I am not a fowl fancier, but an egg consumer. As such, "Hamburg's" birds, though they laid every day, would not suit me. I could not keep them within bounds without an outlay for wire fencing, which would go nigh to ruin me. Did I admire his pets ever so much, I could as soon institute a game preserve in my back yard as be a fancier of Pencilled Hamburgs. Besides, I question very much whether they would produce, in confinement, anything like the number of eggs which their admirer had from them in his good grass run, or which my birds gave me with their scanty accommodation.

The comparison made by "Pencilled Hamburg," interesting as it is, is not an exact one of the value of breed over breed. His birds, with their good range in the open spring of 1856, cannot be set against mine, in narrow limits, during the unusually inclement season of 1855. Nor can the produce of four months only, test the value of a breed like the returns made over a whole year.

If "Hamburg" writes, as I hope he will do, a report of his four birds in January, 1857, I do not think he will show so great an advantage over my fowls.

The supposition he makes that two only of my four birds were set (although a very natural one, from looking at my table), is not accurate. In fact, all four were set, hatched, and one (No. III.) reared her chickens, beginning to lay when they were three weeks old. The other three hatched eggs belonging to friends, who took away the chickens when a day or two old. The mothers always began to lay again in about a fortnight. No. II. and No. IV. were July chickens, and did not begin to lay at all until the end of January and the beginning of February. This, too, somewhat diminished the sum total of the produce during 1855.

I think "Silver-pencilled Hamburg" may consider himself very successful. I have never seen a record of the produce of four birds for four months which exceeded his. As his fowls began to lay so early in the year, they will probably cease earlier than usual. They will lose a good deal of ground when they are molting in the autumn. Should he be able to tell us, next January, that his birds produced, in 1856, a larger average than 150 each, no one will read his statement with more interest than—FELIX RABBIT.

It is curious as an undesigned testimony to the goodness of the run enjoyed by his birds, that their food is stated to have been *mainly* boiled rice. Good as rice is for adult fowls, they rarely lay well on it, unless richer food is largely admixed with it. With a wide range, the insects, roots, and, perhaps, corn stacks, would make up the deficiency of the rice, as food for laying fowls. "Silver-pencilled Hamburg's" birds must have had excellent quarters indeed to have laid so well upon rice diet.

THE COLLARED TURTLE DOVE, COLUMBA RISORIA.

French.

German.

LA TOURTERELLE à COLLIER.

DIE LACHTAUBE.

ALTHOUGH the Collared Turtle Dove is not a native of this country, yet it is so well known, and has been bred here for so long a period, that to omit a description of it would leave the present series imperfect.

They are supposed to come from Egypt; but there is a rather larger and lighter-coloured variety brought from China, and also a darker breed from Bengal, but neither of these are so common in this country as the first, which is usually kept and bred in cages, and frequently confused with, or mistaken for, the true Turtle, the summer visitant of our woods and fields.

They are about the same size, though not quite so slenderly

made, as the common Turtle Dove; but they differ greatly from it in colour and voice.

The beak is thin, long, dove-shaped, and of a dark horn colour; the irides a bright orange red; the feet blood red, and claws dark; the general plumage is a soft stone drab, or pale fawn, being rather lighter on the throat and breast, and darker on the back. There is a trifling variation of shade in the sexes, but so slight as not to be perceptible at a casual glance; the cock being rather lighter, and having a little more of an ash-coloured shade on the rump, while the hen has a slight brown tint on the shoulders. Their most distinguishing mark is a narrow black collar on the neck, edged with white, from which they derive their name of Collared Turtle, and from which they are sometimes improperly called Ring Doves, that name belonging to the Great Wood Pigeon, with a white ring about its neck. The pinion feathers are of a deeper drab, the first having a peculiar broad, oar-shaped end; the tail is long, the two centre feathers of the prevailing colour, the rest having a large white tip.

As stated above, they are usually bred in cages, being supplied with a small box or basket nesting-place; they form a nest of small twigs and fine roots, similar to the common Turtle's, and lay two small white eggs, which they hatch out in fourteen days. The young do not have the black ring on the neck until they shed their nest feathers, which are mostly edged with a very narrow lighter border.

In confinement their most appropriate food is buckwheat, wheat, and canary seed, though they will eat almost any kind of small grain or seeds. Tares I have found to be fatal to them, and they will not eat them if they can procure other food. Of hemp seed they are very fond; but this must be given sparingly, or they become fat, unhealthy, and lose their feathers. If properly cared for they will breed six or seven times in the year, and are very pretty and amusing pets. Moving from perch to perch, they often utter a curious note, something like a shrill, though somewhat suppressed laugh, from which they receive their German name of Lachtaube, or Laughing Dove. The play of the cock is deep and mellow, though some people regard it as melancholy. Swelling out his throat, and bowing his head low, he gives out the sound of who-oo-oo; then, rising and taking a step forward or after his mate, repeats the same gesture and voice. They will also, when tame, coo and bow to any one they are accustomed to see. I have seen my bird coo after a Shanghai hen when loose in the yard. Mine have their liberty, and fly about in the garden during the day. They are arboreal in their habits, preferring to roost and build their nests in the shrubs; and, therefore, it is very difficult to accustom them to return to a house, or even a cage. In this neighbourhood they are sometimes kept in a half-domestic state about gentlemen's mansions, as is the case at Sevenoaks, Chevening, and Penshurst, where they enjoy their full liberty, and build their nests in the trees and shrubs.

In confinement they will breed with the common Turtle. The hybrid produce is generally considered sterile; but Dr. Bechstein says they will reproduce, and that a remarkable thing is, the produce becomes larger each cross. These hybrids have a voice peculiarly their own.

There is a very pretty and quite white variety, which is, however, much rarer.—B. P. BRENT.

THE FAREHAM POULTRY SHOW.

IN reply to "Argus," on the above, I beg, as an exhibitor, and having attended very frequently from the commencement to the finish of the Show held in January last, to state, in justice to the Committee and Secretary, that only bran and fine gravel were given to the birds—"not an atom of sawdust was allowed in the pens."

As proof that due care was taken, I can certify that no bird was lost, injured, or died, out of some three or four hundred pens.

The reason for having the birds on Saturday was, that a very large corn and cattle market being held on Mondays, that day is the most likely to make the Show remunerative; and as many of the birds were returned in far better condition than received, I consider no great mistake was made.

—FAIRPLAY.

WINDSOR POULTRY EXHIBITION.

HELD June 4th, 5th, and 6th. The Judges were John Baily, Esq., Mount Street, London, and Edward Hewitt, Esq., Birmingham.

SPANISH.—Silver Cup, H. D. Davies, Esq., Hounslow. Second and third, Captain Hornby, Knowsley.

SPANISH CHICKENS.—First and second, Mr. Parkins Jones, Fulham.

DORKINGS.—Silver Cup, Rev. Stephen Donne, Oswestry. Second, Captain Hornby, Knowsley. Third, Robert Loder, Esq., Crawley. Highly Commended.—Rev. Stephen Donne, Oswestry. G. Botham, Esq., Wexham Court. J. Chatterton, Esq., Birmingham. Commended.—W. T. Squire, Esq., Wildenhall. H. Handy, Esq., Hacheston. (An excellent class.)

DORKING CHICKENS.—First, Rev. S. Donne, Oswestry. Second, W. Bromley, Esq., Birmingham. Highly Commended.—Captain Hornby, Knowsley. G. Botham, Esq., Wexham Court. Mr. C. Adams, Windsor. H. D. Davies, Esq., Hounslow. Commended.—A. H. Leyborne Popham, Esq., Reading. (A superior class.)

DORKINGS (Red-speckled).—First, Lady Eleanor Cathcart, Cooper's Hill. Second and third, G. Botham, Esq., Wexham Court.

RED-SPECKLED CHICKENS.—First and second, G. Botham, Esq., Wexham Court.

DORKINGS (White).—First, N. Antill, Esq., Portsea. Second, F. J. Coleridge, Esq., Ottery St. Mary. Third, J. Jennens, Esq., Moseley. Commended.—Joseph Clift, Esq.

COCHIN-CHINA (Cinnamon and Buff).—Silver Cup, G. A. Gelderd, Esq., Aikrigh End. Second, C. Punchard, Esq., Haverhill. Third, Baron Rothschild, Gunnersbury. Highly Commended.—E. V. Harcourt, Esq., Hastings. Commended.—Lord de Blaquiere, Woodlands.

COCHIN-CHINA (Cinnamon and Buff Chickens).—First and second, Lord de Blaquiere, Woodlands. Highly Commended.—Baron Rothschild, Gunnersbury. Commended.—J. W. Kellevay, Esq., Ryde.

COCHIN-CHINA (Brown, Grouse, and Partridge).—First, G. C. Adkins, Esq., Edgbaston. Second, Rev. G. F. Hodson, North Petherton. Third, Thomas Bridges, Esq., Croydon. Highly Commended.—P. Cartwright, Esq., Oswestry.

COCHIN-CHINA (Brown, Grouse, and Partridge Chickens).—First, P. Cartwright, Esq., Oswestry. (Second prize withheld.)

COCHIN-CHINA (White or Black).—First, A. Peters, Esq., Mile-end, Portsmouth. Second, R. Chase, Esq., Birmingham. Third, Messrs. Dawson and Redgway, Hopton Mirfield.

COCHIN-CHINA (White or Black Chickens).—First and second, Mr. J. K. Fowler, Aylesbury.

GREY SHANGHAI OR BRAHMA POOTRA.—First, G. Botham, Esq., Wexham Court. Second and third, J. Allison, Esq., Acton.

BRAHMA POOTRA CHICKENS.—First, G. Botham, Esq., Wexham Court. Second, Lord de Blaquiere, Woodlands.

GAME FOWLS (White and Piles).—First, S. Matthew, Esq., Stowmarket. Second, Captain Hornby, Knowsley. (Third prize withheld.)

GAME (Black-breasted and other Reds).—Silver Cup, S. Matthew, Esq., Stowmarket. Second, H. Shield, Esq., Preston. Third, F. H. Powell, Esq., Hillingdon. Highly Commended.—H. Worrall, Esq., Knotty Ash, Liverpool. N. N. Dyer, Esq., Bredon. Captain Hornby, Knowsley. Commended.—G. C. Adkins, Esq., Edgbaston. (A very good class.)

GAME (Duckwings, &c.).—First, S. Matthew, Esq., Stowmarket. Second, H. Heverill, Esq., Royston. Third, J. J. Fox, Esq., Devizes. Commended.—N. N. Dyer, Esq., Bredon.

HAMBURGS (Golden-pencilled).—First, A. G. Brooke, Esq., Woodbridge. Second, Mrs. Parkinson, Knaphorne. Third, Mr. W. Jeffreys, Hedgerley. Highly Commended.—G. Botham, Esq., Wexham Court. James Dixon, Esq., Bradford.

GOLDEN-PENCILLED CHICKENS.—First, G. Botham, Esq., Wexham Court. Second, R. R. Clayton, Esq., Hedgerley.

HAMBURGS (Golden-spangled).—Silver Cup, Henry Worrall, Esq., Knotty Ash, Liverpool. Second, Mr. M. H. Broadhead, Holmfirth. Third, James Dixon, Esq., Bradford. Highly Commended.—Mr. H. Thompson, Windsor. Commended.—F. Edwards, Esq., Bulstrode.

GOLDEN-SPANGLED CHICKENS.—Second, R. R. Clayton, Esq., Hedgerley. (First prize withheld.)

HAMBURGS (Silver-pencilled).—Silver Cup, Edward Archer, Esq., Malvern. Second, James Dixon, Esq., Bradford. Third, Rev. T. L. Fellowes, Acle. Highly Commended.—Rev. F. B. Pryor, Stevenage. Commended.—Baron Rothschild, Acton.

SILVER-PENCILLED CHICKENS.—First, Edward Archer, Esq., Malvern. Second, Richard Oxley, Esq., Windsor. Highly Commended.—G. Botham, Esq., Wexham Court. Richard Oxley, Esq., Windsor. (One of the best classes ever seen.)

HAMBURGS (Silver-spangled).—First and third, James Dixon, Esq., Bradford. Second, J. B. Chune, Esq., Coalbrookdale. Highly Commended.—A. G. Brooke, Esq., Woodbridge. G. C. Adkins, Esq., Edgbaston. Commended.—Mr. Evamy, Windsor. T. B. Wright, Esq., Birmingham.

SILVER-SPANGLED CHICKENS.—First, Mr. C. Adams, Windsor. Second, James Dixon, Esq., Bradford. Highly Commended.—F. Edwards, Esq., Bulstrode. Commended.—R. R. Clayton, Esq., Hedgerley. (A meritorious class.)

HAMBURGH (Black).—Second, Rev. T. L. Fellowes, Acle.

POLISH (Black with White Breasts).—First, Mr. Thomas Battye, Holmbridge. Second, G. C. Adkins, Esq., Edgbaston. Third, T. P. Edwards, Esq., Lyndhurst.

CHICKENS (Black with White Crests).—Second, T. P. Edwards, Esq., Lyndhurst. (First prize withheld.)

POLANDS (Golden).—First and second, R. H. Bush, Esq., Clifton. Third, E. W. Haslewood, Esq., Bridgnorth. Highly Commended.—Mrs. C. E. Coleridge, Eton College. Commended.—J. J. Fox, Esq., Devizes.

CHICKENS (Golden).—First, Mrs. C. E. Coleridge, Eton College. Second, R. R. Clayton, Esq., Hedgerley.

POLANDS (Silver).—Silver Cup, Mrs. C. E. Coleridge, Eton College. Second, G. C. Adkins, Esq., Edgbaston. Third, Mr. W. Tweed, Epping.

CHICKENS. (Silver).—First and second, T. P. Edwards, Esq., Lyndhurst.

POLISH (Varieties).—First, Mrs. C. E. Coleridge, Eton College. Second, Countess de Flahault, Piccadilly. Third, W. Graham Vivian, Esq., Singleton.

POLISH (Varieties) CHICKENS.—Second, Mr. P. Jones, Fulham.

OTHER DISTINCT BREEDS.—Prize, Mr. C. Coles, Fareham. (Andalusian.) Prize, Mr. J. Leighton, Cheltenham. (Malay.) Prize, W. Graham Vivian, Singleton. (Normandy.)

BANTAMS (Gold and Silver-laced).—Silver Cup, T. H. D. Bayley, Esq., Ickwell House, Beds. (Gold.) Second, Mr. W. Farr, Luton. (Silver.) Highly Commended.—N. Antill, Esq., Portsea. Thomas Bridges, Esq., Croydon. Mr. W. Farr, Luton. H. Wildman, Esq., Birmingham. (The class commended.)

BANTAMS (other Varieties).—First, W. S. Forrest, Esq., Greenhithe. (Duckwinged Game.) Second, Rev. F. P. Methuen, Devizes. (White.) Highly Commended.—Rev. F. P. Methuen, Devizes. Rev. R. L. de Burgh, Harmondsworth. T. C. Moore, Esq., Upton Court. Commended.—Mr. J. K. Fowler, Aylesbury.

TURKEYS.—First, Charles Edwards, Esq., Brockley Court, Bristol. GERSE.—First, H. D. Davies, Esq., Hounslow. Second, Mr. J. K. Fowler, Aylesbury.

DUCKS (Aylesbury).—First, Mr. J. Weston, Aylesbury. Second, Mrs. B. J. Ford, Ide.

DUCKS (Rouen).—First, Lord de Blaquiere, Havant. Second, G. Botham, Esq., Wexham Court.

DUCKS (other Varieties).—First, Countess de Flahault, Piccadilly. (White Call.) Second, Miss Steele Perkins, Sutton Colefield. (Buenos Ayres.)

EXTRA STOCK.—Highly Commended.—J. Allison, Esq., Acton. (Grey Shanghai Hen.)

THE SILVER CUP for the best collection of Chickens was awarded to G. Botham, Esq., of Wexham Court.

DUBLIN NATURAL HISTORY SOCIETY.

THE usual Monthly Meeting was held at the Society's Rooms, No. 212, Great Brunswick-street, on Friday evening, the 11th of April.

DR. FRASER read an Essay "On the Disease in Gold Fish, caused by *Saprolegnia ferox*."

"The plant which is the subject of the present communication is by no means of extreme rarity, nor is it of local or limited occurrence. It has been observed with considerable accuracy, and always with interest, by many scientific naturalists, and we possess several good descriptions and drawings of it, both in the form of detached essays and in systematic treatises. Thus, amongst others, Ledermüller, Worsbegg, Spallanzani, Lyngbye, Kützinger, Carus, N. V. Esenbeck, Agardh, Berkeley, Braun, and especially Unger, have each contributed to our knowledge of its natural history, and recorded its most striking peculiarities; and as a proof of its extensive geographical distribution, I need merely state that it has been recognized in Denmark, Prussia, Austria, various parts of Germany, France, and the British Isles. The following are the chief synonyms by which it has been known:—*Saprolegnia ferox*, Kützinger, Phycol, General; *Conferva ferox*, Grunthuisen Nov. Act Leopold Car. 1821; *Byssus aquaticus*, O. F. Müller, Flor. Danic; *Vaucheria aquatica*, Lyngbye, Hydr. Danic; *Hydronema Carus* Act. Leopold, 1823; *Saprolegnia molluscorum*, Achlya prolifera, N. V. Esenbeck; *Leptomitum clavatus*, Acher, and *ferox*, Agardh, Syst Algar; *Leptomitum*, Piscicola, Berkeley. It is not uncommonly found growing upon the bodies of flies and other dead animal substances which have fallen into water, especially in the summer months, and it is also well known to occur upon the bodies of living fish, and to produce a most destructive form of epizootic disease amongst them—a perfect plague of extremely contagious nature. Thus, for example, M. Davaine has described its baleful progress amongst the carp contained in a large pond in France. Hannover and Stilling also notice its appearing both amongst living and dead animals, growing "avec une extreme rapidité," and producing in the former illness followed by death. Unger likewise, in 1842, found sick cyprini, with the plant fully developed upon them, in a pond in the Gratz Botanic Gardens; and during the same year he asserts that the fish in the environs of the town were similarly affected, inasmuch, that mouldy fish, as they were commonly termed, were often to be met exposed for sale in the public markets; in one large pond all the fish were exterminated by its ravages, and in the reservoirs the thymale and trout also occasionally suffered. He says, "It killed in about 48 hours; few recovered which were once attacked; it grew both on the body and the fins; the fish lost their natural activity, sought the surface of the water, and seemed

fatigued; the plant extended from the mouth to the vent, like a covering of velvet; the scales at the points attacked loosened and fell off: the parts affected were evidently enlarged, reddened, spotted with blood spots, and occasionally ulcerated; the fish appeared to move with pain, lay on their sides, or back, and these symptoms usually preceded death for only ten hours." To complete its history, I may mention that it has been met upon dead flies (Gœthe and Nees); on the dead larvæ of the land salamander in water (Carus), on dead mollusca (Gruithuizen); on the wounded toes of the Triton Punctatur (Hannover); upon a wounded eel (Eg. St. Pierre); upon the eggs of *Limax Agrestis* (Laurent), and of *Lymnaea Stagnalis* (Valentin); upon both the ova and wounded body of *Cyprinus Nasus* (Valentin); upon the eggs of the stickleback or *Gasterosteus* (by M. Coste); and it is even stated that the current of water through their nests is probably intended to prevent similar occurrences. Valentin has also noticed it on the eggs of the *Bufo Obstetricus*; Pennant described it as it occurred upon roach kept in glass vessels, and it is well known to attack various species of carp, especially our well-known favourite, the *Cyprinus Auratus*, or gold fish. Of its occurrence on this animal we have a description by Dr. Bennett, in the *Edin. Philos. Transactions*. Finally, Kützing has described three species (which I believe to be all identical), one of which is termed the *Saprolegnia Xylophilla*, and found growing upon twigs in water. I, too, have likewise in my researches obtained it growing upon twigs, identical in its nature with his drawings and with the plant as it grows upon the bodies of living and dead gold fish, and derived originally from them. Further research on this subject has obtained for me the information that (what is probably the same plant) the *Saprolegnia Capitulifera* has been observed by Alex. Braun (Rejuvenescence of Nature) to develop freely on decaying pieces of *Nuphar pumilium*, and also rapidly to attach itself to flies falling into the water in the localities where it thus grows on the plant.

This plant (which fully deserves its name of *Saprolegnia ferox*) as it fell under my notice, occurred amongst a number of young gold fish (about twenty-five) kept in a parlour, contained in a round glass jar along with four young minnows. The gold fish had been obtained from the Botanic Gardens of the Royal Dublin Society at Glasnevin, in September, 1855, having been bred there in the Victoria Lily house during the previous summer months. They were of small size, varying in length from one to two inches; and as I had obtained them for the purpose of making a series of observations upon the changes which they undergo in colour during their growth, I had them in every stage—gold, silver coloured, and white, and also dull brown. On the 28th January, 1856, I first noticed that two of these fish each had an extremely beautiful white tuft, resembling somewhat the appearance of common mould, upon their side. The extent of this patch of vegetation was not more than the size of a spangle. The fish were swimming about briskly, and appeared in perfect health, and I am certain there could not have been any extent of this plant—at least sufficient to be visible to the eye—present upon them twenty-four hours previously. I instantly isolated the two attacked for observation, washed out the jar, and replaced the other fish in it. They were still to all appearance healthy to the most minute scrutiny. In the course of twelve hours more the plant had rapidly extended in the two fish, occupying fully twice as much of the surface as it did in the morning, and next morning (twenty-four hours) it had spread over more than half the body, reaching from the nose to the ventral aperture. One was completely dead at ten a.m., and the other died early next day (30th January). As the plant extended over their bodies they appeared to be stiff, and swam as if moving with difficulty, seeking the top of the water; they afterwards seemed unable to do even this, sank to the bottom, and lay there sluggishly on their sides or in their usual positions. Previous to this one of them appeared for a time to become top-heavy, his head sinking down so far as to threaten to turn him completely round on his back, and he made great and evidently painful efforts to regain his usual level condition. After death the plant still continued to grow over their bodies, developing on the snout and over the mouth, and on

the fins and tail. After a few days the plant manifested itself amongst others of the fish in rapid succession, upwards of half of them dying within twenty days from its first appearance amongst them (the minnow escaping its ravages). Those that last died presented visibly merely the appearance of white films extending over their bodies and dangling from their fins and tail, and did not develop during life the full-grown plant with its tubuli, although in some it became sufficiently evident after death, and reached its perfect state and formed its zoospores. On most of these attacked at this time I noticed red bruise-like marks behind the gills, and especially upon the lower jaw, and in some also on the upper; similar appearances occurred around the ventral aperture, and in two or three upon the sides; but these first attacked did not present such appearances, nor did those which died more recently. When attacked, my attention would usually be attracted to them by their rising to the top of the water and swimming in a peculiar uneasy manner, as if stiff or pained as they attempted to move, afterwards they became more and more languid and sank to the bottom, breathing at longer intervals than in health and irregularly, and dying usually as if suffocated, with their gill covers widely distended and the gills visible. I may here state that I examined these fish most carefully after death, their gills especially, the most external of the branchiæ were in parts loaded with masses of germinating spores of the plant, which evidently had the effect of destroying their structure and disintegrating them, stripping off the fine-lobed capillary processes from the denser cartilaginous structure, and finally loosening the cartilages and recrossing them. The developed plant consisted of very fine fibres, forming dense interlacing masses, which somewhat resembled the fine nap on velvet. The fibres were of rather tough consistence. Those I at first obtained were straight and unbranched, afterwards I found a branched condition equally common. The tubuli contained an amorphous mucilaginous fluid, with masses of globules, aggregated in very unequal amount in various parts—the larger were evidently oil spots, and almost filled the diameter of the smaller tubes; others were more minute, and multitudes were so small as merely to present the appearance of the finest dots—these distinctly exhibited "Brown's movements"—and in some instances I had fine views of the more perfect circulation, termed "cyclosis." The tubuli rarely had partitions; they ended when sterile in blunt tops, gradually tapering upwards, and in oval capsules when fertile. I could trace all the stages of the formation of these capsules. First the granular matter developing more densely at the upper part of the tube than elsewhere, so as to give it a distinct brownish colour, the top then becoming dilated into an ovoid form, and the granular matter still thickening and becoming separated from the ordinary contents of the tube, and the septa rapidly forming by the inflexion of the utricle. Afterwards, as exactly described by Unger, the fructification progressed towards its development, the granular matter continuing to become more dense and opaque, and in its structure numbers of comparatively clearer spaces formed, which increasing, at last showed the capsule filled with from twenty to fifty zoospores arranged like the meshes of a network, and having still some granular matter evident at the sides of the capsules. I then distinctly noticed a movement of the four anterior zoospores (this I wish to state distinctly, as I find that Alexander Brann, whose accuracy of observation is so well known, states that in "*Cerbesia*, *Saprolegnia*, and *Chytridium* the motion" which commonly occurs in other families, "does not become evident until after the birth of the previously crowded germ cells"—I have also been able to verify this movement more than once) previous to their escape from the mother cell, one of them applying itself to the flask-like orifice, and gradually forcing its way out; evidently, as sketched, undergoing considerable pressure in the process, which probably, in this instance, occupied half an hour. Its escape was soon followed by that of the other zoospores, generally emerging two by two, one succeeding the other with great rapidity, and darting out for some distance (at least half the length of the capsule) into the water; they then, after a short rest, floated off right and left with evident motive power, and the other cells in the capsule in their turn began to exhibit independent movements and to escape; finally, the entire got out leaving the capsule empty, the process taking altogether half an hour,

or a little longer for its completion. Almost all the zoospores that I observed resumed their globular form soon after escaping, and ceased to display motile force in the course of six to ten minutes, after which they became stationary. To illustrate the rapidity of the formation of these capsules, I may mention that a tuft of barren tubuli removed late at night, and placed for observation in a glass cell, had developed in great luxuriance its fructification by next morning (within twelve hours), and from this I obtained the varieties of globular mother cells, and those with double and triple cells, and also those remarkable monstrous forms in which the barren tube grows again above the apex of the capsule. Some of the barren tubes grow to a very great size and thickness, and developed spores within their substance; this, however, was extremely rare. I also saw such a tube emit four spores from its extremity, but they displayed little motive power, and floated off only a short distance after their escape. I cannot decide as to these spores having ciliae. Thuret describes their having two, Alex. Braun found only one single short cilium. I did not succeed in getting them; probably I might with higher forms or with the aid of chemical re-agents, which latter process I avoided, as I wished chiefly to observe the development of the plant. It is, perhaps, too often assumed that ciliae are indispensable for producing motion in cells. I obtained very perfect views of the mode of propagation of the spores. Many of them multiplied by a process of gemination exactly like the cells of yeast; and the freshly-formed cell might by observation be seen with its fine granular contents aggregating together and forming larger masses, and even transparent glistening globules of oil. So rapid was this budding process that the same parent cell had occasionally two, three, and four buds arriving at various parts of its surface and in different states of development. As they required a bulk nearly equal to that of the parent cell, I could generally observe the formation of a division occurring between the two; and this rapid evolution of cells soon formed dense masses of vegetation, which by a little care could be seen growing under the microscope. I would wish to direct attention to a very interesting mode of development which I have procured sketches of—the formation of thin hair-like shoots proceeding from a parent cell, and at its extremity the reproduction of the cell-form again resumed, in its usual condition prepared for active fissile development. I would merely state, in connection with this, that the growth of some forms of mould appears to be closely analogous to what I have described. Thus I have seen similar thread-like processes connecting the sporules of the *Asco-phora Mucedo*, and it appears to me to be both an indication of extreme vital energy in the reproductive process, and also an arrangement the object of which is evident, to enable the spores in their development to spread more rapidly over a more extended surface, and to interfere less with each other in their mutual growth. Having thus obtained a second condition of this plant, in which it is a rapidly budding unicellular body, I watched with much care for its return to the tubular form, and was able to trace it pretty perfectly. As the masses of cells developed they became rather larger in bulk and less defined (their utricle or limiting membrane if at all existing being of extreme fineness), and from the surface of the growth, one of the cells developed the new shoot, which resembled in all things the parent plant.

It remains now to describe what I believe is new, at least, as far as my researches go—the fact that this unicellular rapidly developing condition of the plant is perfectly capable of destroying life in fish, many, indeed almost all of them, which have recently died with me, and I have now lost all my fish but three, have presented this state of plant alone (at least during life). It adheres in dense masses to the fins, the tail, and even to the edges of the scales over the body; it collects on the gills, disorganises them, breaks down the higher organised tissues, lays bare the cartilaginous structures in the gills, tail, and fins, and interfering with respiration (as it seems to me), proves even thus more rapidly fatal than from its more slow but equally certain destructive action on the vital tissues. It is impossible not to recognise in this, which might be termed a "mycelium stage," a strong analogy with the mycelium stage of fungi. We know how dry rot, for instance, produces its destructive ravages in wood in its rapidly growing mycelial

condition, not in its more advanced state of development, and I have in my researches on this subject become strongly impressed with the conviction, that it is to this as yet unrecognised state of the *Saprolegnia* we are in reality to ascribe much, if not all, of the destructive action which it exerts on animal life. In fact, I believe we have in it a clear instance of a plant causing disease in healthy bodies, and not, as is too often commonly believed, a mere vegetative growth developed on a body already in a state of ill-health. Such is, indeed, the general doctrine held with reference to Epiphytic growths occurring in disease, which are frequently regarded as accidental Epiphœnomena, whereas their invariable presence alone in such cases would of itself go far to the unprejudiced mind to prove a more intimate connection between them and the diseased condition which they accompany, or, as I think, frequently produce.

Dr. Kinahan had seen this disease in the following aquatic animals while in a state of freedom and alive: the gudgeon, loach, eel (young), stickleback, fry of the salmon and trout, and common smooth newt. During one season it was so prevalent in one part of the Dodder that nearly all the salmon and trout fry were destroyed by it; he had also seen it on the larva of the dragon fly.

LONDON MARKETS.—JUNE 9TH.

COVENT GARDEN.

Supply continues good and steady; prices receding. Early *Vegetables* are now exceedingly good. Young *Turnips*, *Carrots*, and *Spring Cauliflower* in good demand. Continental produce consists of *Green Peas*, *Artichokes*, young *Turnips*, and *Carrots*; also, some good *Tomatoes* have come to hand from the South. *Potatoes*, from Cornwall, we are sorry to find, have shown considerable evidence of the disease during the past week. The trade for old ones is now very heavy.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz.....	6d. to 9d.
" dessert.....	12s. ,, 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen.....	1s. ,, 3s.	Potatoes, per cwt. ..	3s. to 6s.
Peaches, per doz.....	18s. ,, 36s.	" Frame, per lb. 4d. ,, 6d.	
Nectarines, do.....	18s. ,, 36s.	" New, per lbs..	2d. ,, 4d.
Pine-apples, per lb. ..	6s. ,, 12s.	Onions, Y'ng, per lb'ch. 4d. ,, 6d.	
Jersey Grapes, per lb. 4s. ,, 8s.		" Old, per bushel 5s. ,, 7s.	
Hothouse ditto, ditto 4s. ,, 12s.		Turnips, per bunch..	9d. ,, 1s.
Strawberries, per oz..	6s. ,, 16s.	Leeks, per bunch....	2d. ,, 3d.
Foreign Melons, each 3s. ,, 6s.		Garlic, per lb.	6d. ,, 8d.
French Cherries, per lb. 2s. ,, 4s.		Horseradish, per bundle.....	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. ,, 10s.	Shallots, per lb.	6d. to 1s.
Seville Oranges, do... 6s. ,, 12s.		Lettuce, Cos, each....	6d. ,, 8c.
Lemons.....	6s. ,, 12s.	" Cabbage, per doz. 2d. ,, 3d.	
Almonds, per lb.	2s. ,, —s.	Endive, per score... 1s. 6d. ,, 2s.	
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Celery, per bunch....	9d. to 1s 6d.
" Cobs, ditto ..	80s. ,, 100s.	Radishes, Turnip, per dozen bunches each	— to 6d.
" Barcelona, per bushel.....	20s. ,, 22s.	Water Cresses, ditto ..	6d. ,, 9d.
Nuts, Brazil, ditto..	12s. ,, 14s.	Small Salad, per punnet.....	2d. ,, 3d.
Walnuts, per 1000 ..	9s. ,, 12s.	Artichokes, per lb.	— ,, 2d.
Chestnuts, per bushel 15s. ,, 24s.		Asparagus, per bdl....	2s. ,, 5s.

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.	Basil, per bunch	4d. to 6d.
" Red, per doz.	2s. to 4s.	Marjoram, per bunch 4d. ,, 6d.	
Cauliflowers, each ..	9d. ,, 1s.	Fennel, per bunch ..	2d. ,, 3d.
Brocoli, per bdl	3d. ,, 6d.	Savory, per bunch ..	2d. ,, 3d.
Savoy,	1s. ,, 2s.	Thyme, per bunch ..	2d. ,, 3d.
Greens, per doz. bunch 4s. ,, 6s.		Parsley, per bunch ..	2d. ,, 3d.
Spinach, per sieve ..	— ,, 4s.	Mint, per bunch	2d. ,, 4d.
French Peas, per bshl. 6s. ,, 10s.		Green Mint	6d. ,, 8d.
French Beans, per 100 2s. ,, 0s.			
Carrots, per bunch ..	9d. ,, 1s.		

POULTRY.

The supply of Poultry gradually increases, but the demand has, also, of late, been unusually great. It has, consequently, been sold more to the satisfaction of all parties than is usual at this season of the year.

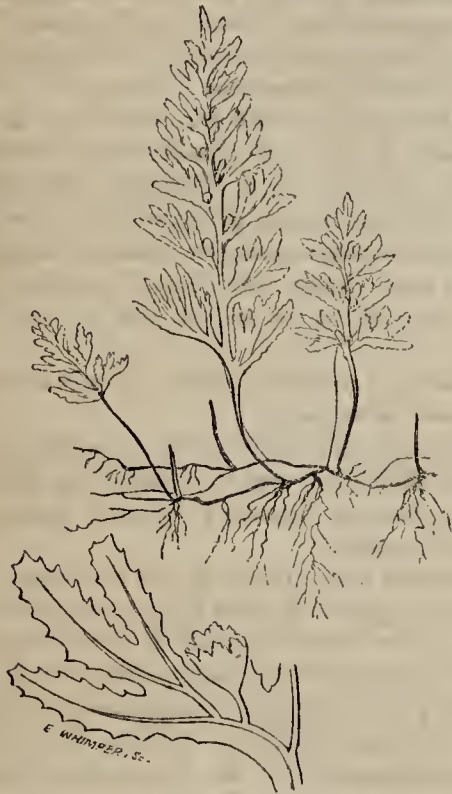
Large Fowls ..	7s. 6d. to 9s. each.	Quails.....	2s. 0d. to 2s. 6d. each.
Smaller do....	5s. 0d. to 6s. ,,	Leverets ..	4s. 0d. to 5s. 0d. ,,
Chickens ..	3s. 6d. to 4s. 0d. ,,	Pigeons	1s. to 1s. 2d. ,,
Goslings.....	6s. to 6s. 6d. ,,	Rabbits.....	1s. 6d. to 1s. 7d. ,,
Ducklings ..	3s. 6d. to 4s. 0d. ,,	Wild Ditto ..	10d. to 1s. 0d. ,,
Guinea Fowls 0d. to 0s. 0d. ,,		Dottrel	0s. 0d. to 0s. 0d. ,,
Plover's Eggs, in bulk.....	0s. to 0s. 0d.		

WEEKLY CALENDAR.

D M	D W	JUNE 17—23, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermio.	Wind.	Rain in Inches.						
17	Tu	Nitidula marginata.	29.906—29.698	59—36	N.W.	02	44 a 3	17 a 8	2 15	15	0 37	169
18	W	Nitidula depressa.	30.095—30.017	58—50	W.	18	44	18	rises.	☺	0 49	170
19	Th	Sun's declinat., 23° 27' N.	30.223—30.061	61—36	N.	—	44	18	10 a 9	17	1 2	171
20	F	QUEEN VICTORIA ACCENSION.	30.366—30.322	56—30	N.	—	44	18	10 45	18	1 15	172
21	S	QUEEN VICTORIA PROCL.	30.335—30.181	64—38	N.E.	—	44	18	11 11	19	1 28	173
22	SUN	5 SUNDAY AFTER TRINITY.	30.250—30.104	74—58	N.W.	—	45	19	11 31	20	1 41	174
23	M	Anobium castaneum.	30.274—30.204	79—53	E.	—	45	19	11 46	21	1 54	175

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-nine years, the average highest and lowest temperatures of these days are 72.7°, and 50.0°, respectively. The greatest heat, 93°, occurred on the 19th, in 1846; and the lowest cold, 35° on the 17th, in 1850. During the period 102 days were fine, and on 94 rain fell.

HYMENOPHYLLUM TUNBRIDGENSE.



This is popularly called "*The Tunbridge Fern*," but by English herbalists "*The Filmy-leaved Fern*." It was separated from *Trichomanes* by the late Sir J. E. Smith, who erected it into a genus, the striking characteristic of which is pointed out by the name derived from *hymen*, a membrane, and *phyllon*, a leaf.

The root is wiry, long, slender, smooth, black, ereeping extensively upon, rather than within the soil, and producing such numerous fibres as to form upon it a kind of turf. Fronds solitary, but numerous, rising at intervals along the main roots, erect, from one to three inches high, smooth, deep, green, filmy, semi-transparent, curling up as they become dry; leafleted two-thirds of their length; leaflets alternate, pointing upwards, variously lobed; the lobes narrow and blunt, chiefly on the upper side of the leaflet, and their edges toothed. The fructification is cup-form, nearly stalkless, at the end of a vein, and occupying the place of the lobe nearest the main stalk on the edge of a leaflet; the cover is formed by two slightly convex round leaflets, equally toothed, and folding over each other.

This Fern is not uncommon in rocky and mountainous parts of Great Britain, and is there found among moss in moist, shady places. It is very plentiful on various rocks near Tunbridge Wells; in Devonshire, on rocks at Wistman's Wood, Beckley Fall, Dunsford Bridge, and other places; in Yorkshire, rarely at Greenfield, near Saddleworth, and near Halifax. In Wales, near Cader Idris and Dolgelly. In Ireland, abundantly near the Upper Lake at Killarney, and in the county of Wicklow, at Powerseourt Waterfall, Glenree, &c. Mr. Lightfoot says it occurs frequently in Scotland.

We have given an instance of the life-retentive power of this Fern, when mentioning the similar power possessed by the *Ceterach officinarum*.

This Fern was discovered by Mr. Dare, a botanist of the seventeenth century, and was first mentioned by Petiver in his *Musei Petiverani centuria prima*, published in 1695. Mr. Petiver there calls it *Darea Tunbridgensis minor*, thus commemorating the finder and the place where it was found. In the second edition of Ray's *Synopsis methodica stirpium Britannicarum*, published in 1696, it is stated that "this Fern was first shown to Mr. Ray by Mr. Newton, who, in company with Mr. Lawson, found it on Buzzard rough Cragg, near Wrenose, Westmoreland, among the moss. Dr. Richardson met with it upon moist rocks in Wales, and near Settle, in Yorkshire. It grows on the left hand as soon as you enter the mountains to go to the old castle, near Lhanberis. It was found also plentifully by Mr. Rand, in company with Mr. Sherard, among the pebbles at Cockbush, six or seven miles from Chichester, on the coast of Sussex."

The *Hymenophyllum Tunbridgense* is one of the smallest and most interesting of all the British Ferns, and although we meet with it in its native state, spreading over and flowering interestingly upon the exposed surface of rocks and stone open to the action of all kinds of weather, still, when we attempt to cultivate it, we cannot succeed, unless means are taken to confine a close, moist atmosphere about its little delicate fronds. It prefers being kept continually damp and warm, which renders it a most valuable acquisition to the Wardian case, where it may be grown separately, as also under a plain bell-glass, or may be mixed with others, which like-wise prefer a similar situation; but whichever may be chosen for its cultivation, rather more care will be necessary in arranging it than will be required for most other Ferns. The situation it generally chooses for its

habitat will be found to be nearly or quite free from all vegetable moulds, and which may be quite dispensed with in pot or artificial culture. Although we have seen it grown very well in equal parts peat and silver-sand, yet we have always found it thrive best under the following treatment.

If to be grown as a pot plant, procure as many shallow pots or deep pans as may be required (from eight to twelve inches wide will be as convenient a size as any, and will grow a nice mass), fill the pot or pan to within an inch-and-a-half to two inches of the rim with small crocks, upon this place half-an-inch of white moss (sphagnum), which press down tight; the pot is then to be filled quite full with powdered sandstone, which is also to be pressed down very firm; upon this a little silver-sand is to be sprinkled, then turn the Fern root upwards, damp the roots, and sprinkle a little sand upon or between them; after that turn the whole over upon the surface prepared for its reception, sprinkle a little more dry sand over the surface, press it all down together, give it a good watering, and leave it to settle. This is when the Fern is procured in cakes (which may be found several yards square), just like a sheet of wadding. If only a few small pieces can be got, then they must be very carefully spread over the same prepared surface, and imbedded in the sand, pressed down and watered as before. When this is done, a bell-glass must be placed over the whole, so as to fit just within the rim of the pot, and the pot to stand in another pan of water, so that two-thirds of the depth of crocks at the bottom of the pot may be immersed in water; but the level of the water must be below the bottom of the moss.

THE June Meeting of the Entomological Society was held on the 2nd inst., the President, W. W. Saunders, Esq., F.R.S., being in the chair. Donations of books and publications to the library were announced from the Royal Society, Society of Arts, M. Guerin Meneville, Messrs. Wollaston, Dallas, Newman, Lovell, Reeve, Staunton, and Walker. The President announced that Mr. Douglas, who had performed the duties of joint Secretary for the space of seven years, had tendered his resignation to the Council, which had been accepted. The President expressed the regrets of the Society at the loss of so efficient an officer, and announced that the Council had proposed to nominate Mr. Jansen as joint Secretary in the place of Mr. Douglas, the election to take place at the next meeting.

Mr. Frederick Bond exhibited a remarkable monstrosity, occurring in a specimen of the common *Biston lirtarius*, the body and wings of which were those of the female, but the antennæ, instead of being quite simple as in that sex, were pectinated as in the male, the pectinations, however, being much reduced in size, especially in the left-hand antennæ. It had been taken in the Regent's Park.

Mr. Samuel Stevens exhibited several very rare Moths recently captured, namely, *Pelaria nubeculosa*, *Notodonta Carmelitas*, *N. diacoides*, the two latter from Addington

Wood, together with young larvæ hatched from eggs deposited by the females of those insects since their capture. Mr. S. Stevens had found the best plan was to place the larvæ within closely-stopped wide-necked bottles, with some leaves for their food. He also exhibited some beautiful Lepidoptera and Coleoptera from the Amazons, being a selection of the rare species forwarded to this country by that indefatigable collector, Mr. Bates, from Ega. He also exhibited a drawing of the Caterpillar and chrysalis of the rare and curious Moth *Agdistes Bennetii*, found on *Statice limonium* on the Essex coast.

Mr. Douglas exhibited the case of a new species of *Coleophora*, found by Mr. Wailes upon *Genista Anglica*, also *Cryptocephalus Coryli*, from West Wickham; *Lebracrus minor*, from the neighbourhood of Brighton; *Platyrhinus latirostris*, *Endomychus coccineus*, &c.

Captain Cox communicated a notice of the discovery of a chrysalis of the Lime Hawk Moth (*Smerinthus tilia*) under the bark of a Plane-tree, inclosed in a cocoon of silk, interwoven with particles of wood, the usual habit of the insect being to undergo its chrysalis state in the earth without any cocoon being previously formed. The skin of the animal was not so rugose as usual.

Mr. Armitage exhibited a number of rare Coleoptera from the south of France.

Mr. Saunders read a notice of the transformations of various Lepidopterous insects observed in Natal by Mr. Plant, who had forwarded coloured drawings of them to this country.

Mr. Westwood read a paper on the wing-veins of insects. These organs had been termed wing-bones and nervures, but the recent researches of physiologists having clearly proved, notwithstanding their horny covering, that they were the organs of circulation, the term wing-veins had been applied to them by Messrs. Halliday, Westwood and others. Mr. Newman had, however, recently published a memoir denying their function, and considering them simply as organs of the wing of a bat, but, nevertheless, applying to them the term of wing-rays. In the paper read at this meeting, Mr. Westwood communicated extracts from the works of Owen, Newport, &c., proving them to be veins, which, from their position in a thin expanded membrane, it was necessary to enclose in a firm case. A paper by Mr. White containing descriptions of some new and beautiful Homoptera from Borneo, Celebes, &c., was read.

The annual excursion of the Society was fixed for the 21st inst. at Reigate.

SUCCULENT VEGETABLES.

I HAVE been tempted to leap over the bounds of the fruit-garden through taking an half-hour's peep into "The Complete Gardener" of Monsieur de la Quintinye, the London and Wise's edition of 1710. Speaking of the succulence of vegetables, or that property which averts the title of "Drumstick" from Asparagus, and the character called "Blue" from Cabbages, he forsooth recommends what our country friends, who care little about chemistry, call muck. For my own part, I have

long had an aversion to lean vegetables, being very fond of every green thing, from a Cabbage or Spinach, up to that crowned monarch of the whole group, a Cauliflower; and as for a crisp salad, why, when accompanied by good old English roast beef or mutton, I must confess that I should be very sorry to be a dissident.

But it is not only in salads that our author grows enthusiastic; he exults in the idea of good fat Legumes. Let us hear him. "Good dung, thoroughly rotten, is the soul, or *primum mobile*, of kitchen-gardens, without which, no more than without frequent waterings and dressings of the ground, no man can ever be richly stored with fine and goodly Legumes."

What would De la Quintinye say could he witness the labours of the modern guano-bag, or, perhaps, hear of gas-tar water, with some weeds and rubbish, taking the place of a real old English muck-heap?

But Quintinye, it appears, know full well the value of organic matters in the soil; and, indeed, whatever may be the case with the corn of the farmer, certain crops of the kitchen-garden could not be produced in the highest perfection without manure from the dunghill.

Whatever progress science may make hereafter, one thing surely is certain, that what is ordinarily termed dung, or muck, will never be totally rejected; at least, it will require no ordinary stretch of the imagination to suppose such a state of things. Nevertheless, let us at once admit, in order to free ourselves from the imputation of prejudice, that it is a great blessing to our country such a thing as guano has come to the aid of the muck-heap, which, owing to the vast increase in our population, and the increasing amount of comforts enjoyed by our labouring classes as compared with bygone years, had long since become over-taxed.

My purpose here is to draw attention to the real necessity of not only allowing liberal manurings to our prime vegetables, but also of attending well to the character and condition of the manure when applied.

I have been in the habit, for many years, of using a very considerable quantity of tree leaves amongst the stable-door manure, both to prolong the heat, and, what is of more importance still, to augment the bulk of the manure-heap. This material, when it comes to hand from fermenting purposes, is generally flaky in texture, not well decomposed, and it hangs together in masses. Formerly, I used to dig this in most liberally, just as it came to hand; and I have known such patchy manure dug up many months afterwards in flakes, just as it was introduced. Now, according to the old saying, "Money, like manure, does no good till it is spread;" and, verily, the properly breaking and spreading of manure is not, by any means, an unimportant affair in gardening. I have, however, for the last few years, caused all hotbed linings, and other such mixtures, to be chopped finely to pieces before wheeled out on the land, and I find a vast improvement in the crops in consequence; indeed, this and deep digging are the two chief points in high vegetable culture. Besides, as to economy, I will engage to make two loads of well-chopped dung go as far as three when unchopped and spread in flakes.

But to return to the subject of succulent vegetables: I quite agree with De la Quintinye, that generous manurings, and any means by which a permanency of moisture (not stagnation) can be secured, are, indeed, the great points in vegetable culture. In what do we find more difference than in *Asparagus*? One man's produce may be eaten to within one inch of the very stalk, albeit the "grass" may be from six to eight inches in length; another's affords merely a bite of a couple of inches—all the rest is "Drumstick." And they say that deep soiling *alone* is accountable for all this! Deep soiling, I aver, is deep nonsense; but it

requires even more than deep soiling to produce genuine Drumstick Asparagus. It must have more of another kind of ill-usage so to pervert its natural character.

Speaking of the succulence of vegetables, which is, indeed, the quality they are most esteemed for (so say our cooks), look at that difference occurring in *Lettuces*, with which every one must be familiar. In these days, although we have some scores of fine names in our catalogues, it is somewhat singular to remark the fact, that ninety per cent. of our best British gardeners, and, what is more, our best British aristocrats, prefer a first-rate, highly-blanching *Bath Cos* to any fresh importation from Paris. Talk of spongy Cabbage Lettuces! Why, an English nobleman would as soon have a bunch of rags in his mouth as a pine-splashed Cabbage Lettuce! I much fear all this will be called prejudice, prejudiced noblemen, prejudiced gardeners; if so, it is, nevertheless, a singular coincidence. Well, it is a national one, and must be borne. And now let me ask, How comes all this difference between Lettuces as regards succulence and crispness? It is not in kinds alone. Here I must be allowed to digress for a moment, and fall back on De la Quintinye, who has such funny names for the Lettuces of his day: they run as follows. Says De la Quintinye, page 220, "There yet remains to be known for the perfect understanding the ordering of Lettuces, that they which grow biggest must be placed ten or twelve inches from one another, which is to be understood of the Shell Lettuce, Perpignans, Austrians, Bell Gardes, or fair looks, Aubervilliers, Alphanges, and Imperials; also, the Bright Curled, the Short, the Little Red, and the Green Chicon Lettuce." Really our modern seedsmen are ingenious in giving natty names to their seeds; but I almost suspect that such very odd names would baffle the ingenuity of even those who can take early and late Cauliflowers out of the same bag with as much facility as the great northern wizard can draw Port, Sherry, or Glenlivet, from the same bottle.

But it is quite possible, nay, perfectly easy, to produce the very purest Bath Cos Lettuce in a state totally unfit for the salad-bowl. The Bath Cos Lettuce prefers a loamy soil; but it must be highly enriched with manure if the Lettuce is required to be fat and crisp. The manure, too, should be well decomposed; it is of little use digging in littery material for a crop of Lettuces. Another point in transplanting Lettuces must be observed: they should be transplanted betimes; they can scarcely be too young. Indeed, transplanting Lettuces almost half-grown, any time between April and August, is sheer nonsense; they are sure to "bolt."

Let us also take *Celery*. Here is a salad plant which will, if necessary, grow entirely in manure; but under any and every circumstance, it must be manured most liberally, and the manure must be well decayed, and well divided with the spade. I am perfectly aware that it will succeed without this nicety in chopping fine, which I have here dwelt on; but I fall back on my own argument, that manure is shamefully wasted without this chopping. Plenty of this kind of manure thoroughly mixed with a soil in a highly-worked condition, and a total immunity from drought during the growing season—these are the conditions requisite for producing crisp, sweet, and tender Celery. As to its "bolting," why, it is just like the Lettuce and many other things: take care that its removals, or, in other words, cheeks, are carried out whilst the plant is small.

Speaking of manures, I cannot forbear ending these somewhat desultory notes with another quotation from De la Quintinye, which will show, that in spite of modern notions as to manurial matters, our ancestors were not altogether in the dark. He argues thus:—"Now, since the great defects of earth are too much moisture, coldness, and heaviness or lightness, and an

inclination to pearing, so amongst dungs, some are fat and cooling, as that of oxen and cows; others hot and light, as that of sheep, horses, and pigeons. And whereas the remedy must have virtues contrary to the distempers it is to cure, therefore hot and dry dungs must be used in cold, moist, heavy earths, and oxen and cow-dung in clean, dry, light earth, to make them fatter and closer."

Again, as to what constituted manure in his opinion, he says, "Not that these two sorts, though the principal, are the only materials for amendments of earth; for upon farm lands all sorts of stuffs—liuen, flesh, skin, bones, nails, hoofs of animals, dirt, urine, excrements, wood, fruit, leaves, ashes, straw, all manner of eorn, soot, &c.; in short, all that is upon or in the earth, oxecept stones, or minerals, serve to amend and better it."

So wo may see, that with the exeception of inorganic materials, which our ancestors despised, they had very similar notions to what we now possess, after all the parade of science.

R. ERRINGTON.

A NOVELTY IN FLORICULTURE.—Mr. W. H. Osborn, of Perry Pont House, Perry Barr, has, at the present time, a perfectly Green Rose in flower in his Rose-house. The Rose, called *Rose verdiflora*, is of a full rich green, and is, perhaps, more interesting on account of its novelty than for its beauty. A drawing of the flower has been made by Mr. Wallis, of the Government School of Art, in this town. The tree was obtained from a French nurseryman, and whether it will endure the severity of an English winter remains to be seen.—*Birmingham Gazette*.

BEDDING-PLANTS.

NEW BEDDING-PLANT.—I was told of a new bedding-plant which was in full bloom in a celebrated garden not far from London, and I was urged to introduce it to the new experimental garden; but I had no invitation to go and see it, although the gardener is an old acquaintance, so I had to ring the bell and answer it myself. The new bedding-plant turns out to be a hardy perennial, and as easily propagated as a Strawberry plant. I never saw the plant before; yet it is a native plant, and one of the oldest in the "English Botany." A bed of it, twelve feet long and four feet wide, was, without exeception, the richest flower-bed I ever set my eyes on. When *Sanvitalia procumbens* just covers the bed, and all the plants of it in a bed are of exaactly the same strength, I consider its habit and the style of flowering to be the seek-no-further of a bedding-plant. *Saponaria Calabrica* comes the next nearest to my ideas of what a bedding-plant ought to be. Now, the new plant, or, let us say, this very old plant, exeels them both in style of growth; and as to the flowers, which are yellow, there is not another flower of the kind under the sun that is more beautiful. It is a very double "Buttercup," and the double flowers are, in size and shape, like those of *Sacramento*, the Pompone Chrysanthemum; but the gloss or varnish-like lustre of the double Buttercup places it above all Pompones in richness of tint. The field Buttercup keeps in bloom from the end of April to the first or second week in August, and I suppose the double form of it will flower as long, and not longer; but, as I said before, I never saw a more perfect flower-bed than that was, nor do I expect it will ever be better in the experimental garden, for which I got a good supply of plants; and not only that, but they were proud of being thus able to contribute to my hobby, although they have the royal family and all the court party among their yearly visitors. The reason why I cannot show my side of this kind of pride is

this—unfortunately, among such a erowd of readers as we have created, as it were, there are some few who when they hear of any good thing which would suit themselves, they forthwith make war on the unoffending owners, and there is no other way of keeping clear of them than keeping them in the dark corners of the vineyard. But what is the book name for a "Buttercup?" or what is the Buttercup itself? Everybody in the country will tell you this or that field is full of it, and there is a five-acre field, which I can see out of the window, which is now (June 10th) one mass of yellow, with the grass or hay about twenty inches long, and the yellow "eups" show above it all, and they call them Buttercups; but the truth is, there are not ten men in a parish in England who can tell a Buttercup from a single-flowered Bachelor's Button, which is the only yellow flower in the five-acre field, or from a bulbous-rooted Crowfoot, which is fully as common in the fields as the true old English "Buttercups." My double yellow bedder is the rare *Ranunculus repens flore-pleno*. *R. acris*, when double, is called Bachelor's Buttons; and *R. bulbosus*, the true "Buttercups," the "cuckoo-buds of yellow hue" of Shakespeare, "the Gold-eups," and "King's-cups," never creeps at the root, which is a solid bulb, or by the stem, while *repens*, or common Crowfoot, the worst weed in a garden, propagates itself, just like a Strawberry, by rooting at every joint. In strong, marshy land it puts up flower-stalks as high as *R. acris*; but the double form of it does not rise above nine or ten inches high, and the flowers are not much higher than the leaves; but, coming in one mass of dazzling yellow, they make the greatest show of all the Ranunculuses, not execepting the endless tribes from *Asiaticus* the florists' breed.

I lately saw a bed of mixed double Columbines, (*Aquilegias*), and from that hour I made up my mind to have a similar bed of them in the experimental garden. They were almost as beautiful and as varied in colour as the *Dendrobiums* at the Crystal Palace, execepting the yellow ones. How strange that public taste has not yet called for an improved race of Columbines. Hitherto the theatres have monopolised this branch of our craft; but if I shall be as successful as I antieipate, I shall turn the Columbines to better account, and if you can assist me in any way by seeds or roots of improved sorts, and double ones more particularly, I shall be able to do it all the sooner; but I have so many things to write about just now, that I must work up as for a Saturday's dinner.

LINUM GRANDIFLORUM.—I sowed the seeds from the London House packet, which contained twenty-five seeds, on the 13th of May, just as the rains came on, which will make this season the most memorable of any for "planting out." The way I was to manage them is already recorded. Those which I sowed in the open air, under a west wall, with three pieeces of glass round the pot, were up in fourteen days, the sun being hardly out the whole time. Another pot of them, which stood on the inside sill of my kitchen-window, were up in ten days, and the place was too hot for them, which tells plainly enough that it is murdering work to put them in a hotbed, as I expected. I plunged that pot half-way into the mould in a largor pot, and placed the double pot on the outside sill of the same window full facing the south,—that place seems rather too hot for this *Linum*, but the plants look as healthy as those under the wall, only somewhat more drawn.

Now, I have made up my mind already that we have been all wrong hitherto with the treatment of this very beautiful plant. I am quite certain that it requires the selfsame treatment as *Schizanthus Hookerii*; that it should never be sown in the spring or in heat; that our days are too long, too hot, and too dry for it, in a seedling state, in April, May, and June; that it requires

a very long time to make a flowering plant of it, and that all attempts at forcing it, as it were, to come up to the necessary conditions of a flowering state from a spring sowing must end in disappointment more or less. It ought to be sown about the end of August, along with herbaceous *Calceolarias*, *Schizanthus Hookerii*, and receive the same care and treatment as the latter all through the winter. Perhaps it may do with the more hardy treatment which suits the herbaceous *Calceolarias*; but that we have to prove. The safest mode is to suppose it to be a *Mignonette* or a *Schizanthus* seedling, and to treat it accordingly, that is, to give it air without draughts, and water without wetting, if you understand what that means, namely, that the surface of the soil in the pot should always appear to be dry and in want of water, while the roots are in moist, stiffish loam all the time, but no more heat or warmth than you would allow for seedling *Calceolarias*, which, on the other hand, do best if the surface-soil is always wet. *Mignonette* stands more wet in winter than *Schizanthus Hookerii*; both of them do best with strangers in loam that is not of a binding nature; but fast men, who fear no danger, will grow them quicker in a mixture of leaf-mould and loam. I am thoroughly convinced that that is the best way of treating *Linum grandiflorum*. I cannot, from my present experience, say more of it with absolute certainty; but I should think it probable that in March, or as soon as the seedlings commenced a spring growth, the top bud should be cut out for forcing the plant to make two, or three, or more shoots from as near the bottom as possible; and again in May I would stop one-half of my seedlings, for two reasons; the first, to get more bushy plants, and the second, to prolong the season of flowering. I think the plants so reared would make nice little patches on a choice, narrow border in front of a greenhouse; but "bedding-out" is all out of the question with such delicate subjects. They are drawing-room plants, and lots of them along the edge of a front shelf in a nursery show-house would bring out all the ladies round about there to buy them for their work-tables, and the sooner they killed them the more would be sent for, and the more questions about them for THE COTTAGE GARDENER; but before that time comes round, I shall learn all about them from my own seedlings, and be able to tell what is best to do with them, and how to preserve them to the last, and even how to ripen seeds from them. I shall keep nipping off their heads all through the summer, if I kill every one of them. Experiment is an experiment only when done with knack and nerve. A doctor is never a physician till he sends a good number of patients out of the world; and if I doctor my seedlings to death, depend upon it that will save ten thousands of them from a natural death. I shall not state just now how many seedlings I have got up from the five-and-twenty seeds, for I assume it as a fact, that the packets were made up in Paris, or somewhere on the Continent, and that the London seedsman had no knowledge of how many per cent. of genuine seeds the foreigner allowed to each packet. I am positive that every seed which did not vegetate in my two pots were rotted before the 10th of June. I took special precautions to ascertain the fact at the time I sowed the seeds.

There is little difference in the seeds of *Linum grandiflorum* from Flax seed, and if the plant of *grandiflorum* was as strong as the Flax plant, the same treatment would suit both; and Ireland ought to be more successful in the cultivation of the *grandiflorum* than England, from longer experience with the Flax.

There is one more question connected with the plant which I will state honestly, like the rest. Here is a plant which every one, by common consent, found difficult to rear, and most people could not get up their seeds of it at all. The whole English trade have had

it, as far as we know, from the Continent: how, then, is it that one of our correspondents says he bought a packet of it from Mr. Rendle, of Plymouth, and every one of the seeds came up? If Mr. Rendle saved those seeds himself, we all know there is not a more honest man in the trade; if not, and that he had them from the Continent, I do not believe one word of the statement of our correspondent. And this is what I want to impress—such statements from writers who do not give their names and addresses, do a vast deal of injury to those very men they seem to honour. The whole public believe now, very wrongfully, that Mr. Rendle employed that correspondent to puff his *Linum* seeds, whereas, if that correspondent had given his full name and address, every one would see the importance of sending to Mr. Rendle for his *Linum* seeds, if for none other reason; therefore, I entreat that writer to send his address to our office at once, for as the matter stands, I firmly and with a clear conscience disbelieve what he said.

PROVING SEEDLINGS.—One of the first breeders of *Geraniums* in England, a perfect stranger to me, has sent a deputation, desiring me to change my resolve about "proving for the trade," and to take charge of and prove his best seedlings. The deputation was headed by Mr. Dick, head-gardener to the Marquis of Breadalbane, near Hampton Court, a valued friend, whose views I have consented to; but there are special objections to any one undertaking such a thankless responsibility. The experimental garden is filling fast.

D. BEATON.

MANCHESTER HORTICULTURAL SHOW.—A correspondent informs us that the result of this exhibition on June 4th was most satisfactory. The society is emerging, as it were, from difficulties, and with increased means, there can be no doubt of the exhibitions being made still more attractive. It is a fact that no previous exhibition deserved any commendation, while, on this occasion, good plants of all sorts were most abundant, and there was a remarkable absence of bad specimens, and not a single complaint was made. The glazed structure recently erected as an exhibition house, and having an area of about 1,300 square yards, was shaded inside with thin grey calico in a tasteful manner. In it the principal plants were exhibited, and the colour so contrasted that the best possible effect was obtained. To name any plant in particular, when all were so very good, might lead to expressions of different opinions; but the *Ixora Javanica*, in the lot that took the first prize in Class 1, was magnificent, and exhibited in the best possible condition. The contest, however, for the first prize was a very close one, and not a few thought Mr. Epps ought to have had it. The plants which could not be exhibited in the new building, and the vegetables and fruit, were shown in two large adjoining tents. The company attending could not be less than 4,000 in number, the majority being ladies, and the unanimous approval and expression that the exhibition was the best that had ever taken place in the north of England augurs well for the future prospects of the society.

BUNCHES OF GRAPES CONVERTED TO TENDRILS.

"In my Vinery last year, which is eighteen feet in length, I had a nice crop of fruit, but of a bad colour, Black Hambro's, more like Grizzley Frontignans than anything else. This year, when grown six eyes in length, I thought I was going to have an abundant crop, but now I fear I shall have none. The bunches appeared strong once, and the foliage healthy, which continues up to the present time, but the fruit is a complete failure; the bunches turned yellow, the fruit fell off, and the stalk curled up like a tendril. On examining the

roots I found they were covered with flags six feet from the Vinery, and plastered with lime. I enquired the reason, of course, and was told that it was to keep the wet off the roots. After that I took up two or three of the flags, and found rotten and decayed roots close to the flag. Ought I to take off the flags directly, or leave them till the autumn?—J. M."

WERE I writing privately to this correspondent, I should require more time and particularity than I can now spare, to prevent myself being the cause of any further disappointment to him. I am not afraid to commit to paper here the views that strike me, because I feel confident that whatever is mystified or unsound in them will be cleared up or dispelled by the superior intelligence and practical experience of others, and because next to the pleasure of ascertaining and practising a truth is the delight of having an error or a misconception pointed out in the gentlemanly way in which these things are always done in this serial.

In my rambles the other day, on speaking on concreting the bottom of borders, one of our best gardeners instantly reprobated the custom, and advocated, instead, the concreting the surface to keep the soil comparatively dry, and the roots near the surface. The pages of this work alone show that there are very vague notions on this subject floating about with in the horticultural horizon. All of us are conversant with the fact that fruit-trees frequently will not flourish in a prepared border, and will fruit immensely on the sides and ends of dwelling houses, where the whole space over the roots is flagged or pitched closely over; the most of the moisture for the roots being drawn from the surrounding medium. The great fruitfulness of such trees consists in the fact, that in general the juices are highly elaborated from the supply of moisture being comparatively limited, and that obtained at no great distance from the surface. The mere growing principle is reduced to a minimum, and in self-defence the plant makes an extra effort to perpetuate its existence by means of fruit and seed. But I have seen plants situated exactly in the same manner as respects paving and pitching over their roots, and yet in time become excessively luxuriant and unfruitful, merely because the roots had the opportunity of descending into deep, moist soil, and gorging themselves with moisture at a great distance from the light and air. I have recorded how I covered a Vine border, for several years, with a concrete impenetrable by water, formed of tar and gravel. The border had rather a steep slope, and was covered for a width of fifteen feet, the water going at once to a drain. When the concrete was removed the surface of the rich soil beneath was laced with fine healthy roots—the soil was in a fine equable state as respects moisture—showing that moisture had been drawn to the roots from the surrounding ground. The reason I removed the concrete was, that I thought the Vines were getting weaker, though anything but less fruitful, as every little shoot almost would show several bunches, and even the laterals showed fruit plentifully.

The reasons of this extra fruitfulness may be threefold; the roots from the slope of the border and drainage could not easily get down; the *whole* of the border was concreted over, not a *part*, and the roots were incited to keep near the surface, from litter and fermenting matter thrown over the border in winter and spring, and the action of the sun on the hard surface in summer. This happened in a Vinery, and mostly with Vines that, years before, were just such as our correspondent describes—the fruit either colouring badly, shanking or shrivelling, or tendrilling off, notwithstanding my efforts, mechanical and otherwise, though the foliage was much finer, and the wood stronger than ever it has been since. The mechanical contrivance consisted in tying a piece of matting round a piece of stone, lead, &c., from a quarter to one ounce

in weight, tying the other end of the string to the end of the attempted runaway bunch, and leaving it suspended, when the strain thus occasioned incited a greater flow of the fruitful juices into the shoulder of the bunch than otherwise it would have obtained. I am only justified in forming this surmise, be it right or wrong, merely from the results often manifested in closely-watched experiments, the bunches unoperated upon becoming every day more corkscrewed, until every floret finally fell off; while most of the others had even their corkscrew involutions untwined, and formed, ultimately, fair bunches. The other remedy, and a rather expensive one, was keeping the houses much drier and hotter in autumn, by using fire-heat then liberally for ripening the wood, the immaturity of which, I judged, was the chief cause of my annoyance. In such circumstances, I found that I could be much more successful by fruiting young rods than in cutting back to a bud on the spurring principle, whatever means I took, by disbudding and otherwise, to ripen the buds at the base of the shoots.

This immaturity of the wood and ultimate consequences, combined with an apparent luxuriance of growth, I attributed to the roots feeding in too deep and moist a soil, in which they were enabled to absorb more moisture of a rank nature than the leaves and bark, under a common amount of light and heat, were able to elaborate. In this I was more confirmed by the position of the border, which, instead of sloping out from the wall, rather sloped considerably towards it. A drain from three to four feet deep, terminating in a dumb well, was dug in the front of the border, and that, though it lessened, did not eradicate the evil. I then lifted the roots of the Vines for the most of their length, found them long and bare of fibres, running deep, and what fibres there were going almost straight down; I put some drains across the border, elevated it at the back to give it a slope, placed the roots within six inches of the surface in fresh soil, and planted some young Vines at the same time, as I could not do without a crop of some sort, and the old Vines suffered little or nothing from the manipulation. In various experiments I found that the soil was drained with great difficulty, as even close to deep drains the moisture would be retained as in a sponge.

The foregoing operations would have quite satisfied me, but for this quality of the soil, and the necessity, at that time, of forcing pretty early; and I resorted to the concreting early in autumn, for the purpose of preventing the autumn and winter rains getting directly into the soil of the border wanted for early forcing. Could I have got a tarpaulin at my elbow, I might not have thought of such an economical plan, as I must confess all my predilections were in favour, not only of having the roots near the surface, but also within the free access of air. I have sometimes regretted that I did not leave the solid concrete of the surface of the border to remain another four years or so longer. Whilst it remained the Vines were extra fruitful, and very heavy crops were taken, visitors pronouncing that the Vines were thoroughly ruined for another season, though, when that season came, there was just as heavy a crop as ever, though not one bunch that showed in four was left. Since then I have tried various cheap modes, such as a coating of tar, spread as thinly as possible, to throw off the autumn and winter rains, removing it in summer; and though the luxuriance is not extraordinary, there is always a vast quantity more of fruit shown than it is desirable to retain. Ever since the Vine roots were raised, and excessive moisture guarded against, there has been no trouble with tendrilled bunches; and as for pruning, on those Vines especially whose roots were all lifted, or the young ones planted near the surface, all directions and systems may

be pleasantly dispensed with; as, for the sake of experiment, the long rod, the short rod, the short spur, and having no spur at all, but cutting clean off to the old wood, were equally fertile in showing fruit in abundance. Have healthy roots near the surface, free from a superabundance of moisture, especially at an early period; and though you may not have such huge individual bunches, and parasol-like leaves, as when the roots are deeper, you may always foretell a crop, unless a monster one should be so allowed to remain as to weaken the powers for fruitfulness for another year. This is an evil we are all liable to, especially when Grapes are required; not now and then on especial occasions, but every day from the time they ripen.

I fear that our correspondent will say that I am giving a roundabout statement, instead of meeting directly his case. I often find, however, that an unvarnished narration of facts is fertile in suggesting ideas of action in similar circumstances. Although it is possible the flag-stones so securely jointed may have proved the inciting cause, I do not consider them to be the ultimate reason of the evil of which he complains. Before doing so, I should have required to know something of the width, and depth, and material of the border, and how these flag-stones themselves were situated, whether on the incline or on the level, and in either case what remedy was taken to convey away the water that fell upon them, so that it did not all find its way into the border at one place longitudinally, instead of falling equally over it. I have sometimes seen such attempts made to keep part of a border dry that absolutely made a part wetter than it naturally would have been, just as I have seen a man putting a spout round his cottage to catch the rain from the roof, and having collected it into one or two parts, allow it there, for want of suitable drains, to sink into the foundations of the house, and rise again in the shape of damp walls through the whole building.

There is just one thing—allowing all the particulars to be quite correctly stated—that rather damps me in coming to a definite conclusion, namely, the roots being rotted and decayed close under the flagstone. Three questions here present themselves:—1st. Is it likely there is any thing prejudicial to vegetation, such as magnesia, in that flagstone? 2ndly. Is it quite a fact that the roots are black and decayed, and you have not rather looked upon some of the decayed fleshy parts of strong rootless of last year? 3rdly. Was the soil very dry or very wet? In either case, if satisfied the roots are decaying, the flags should be removed. I should, from my own experiments, have been led to expect good, healthy roots there, more especially if, in addition to the inciting causes of heat by conduction in summer, these stones were kept warm in winter, and especially in spring, by protecting material. If this had been the case, and the other roots near the surface, you might have lacked great luxuriance; but you would also have lacked tendrilled bunches. If, as I suspect, the water from these flags has got to the roots of the Vines, either by immediate percolation, or absorption by capillary attraction, that will sufficiently account for the evil. If this evil has appeared only recently, the late cold and continued rains would be sufficient to account for it. The plant became charged with watery juices, and the young fruit was the first thing to suffer. The whole description exactly tallies with what came under my experience many years ago. I have not the slightest hesitation in stating my conviction, that the unfortunate symptoms in this case are owing to the roots, as a whole, being in a deep, wet, and cold condition.

Perhaps it would be as well to remove the flagstones at once. I would have unhesitatingly advised doing so, and covering with rich compost, if the Vines showed signs of weakness. Any little hesitation in the matter

proceeds from the consideration of the fact, that they are already there, and may serve some ornamental or useful purpose in front of the house; and also a still more selfish one, that they might serve, in some measure, to test the surface concreting theory. All things considered, I would prefer a little manure, or rich compost, over roots, in preference to the stones, for the summer; though, if there was no peculiar, as yet unaccountable, reason for the roots decaying beneath them, I do not place much of the blame on their shoulders, farther than this—that, not getting moisture at the surface, the roots were enticed into greater depths.

The stones disposed of according to the judgment of the proprietor, the immediate thing to do is to get rid of superabundant moisture by seeing that there is a drain, say, four feet in depth, or considerably below the roots of the Vines. The clearing out of this will enable you to examine the roots of the Vines, and to judge whether more is necessary to deprive them of any chance of stagnant moisture. If the main roots are from fifteen to eighteen inches from the surface, you may rely on this drain to do your wishes, with the assistance of the border exposed to the sun all the summer, and kept moist and mulched to encourage the roots upwards, and a little extra fire to harden the wood in the autumn. If the main roots lie two feet and onwards from the surface, and the soil is naturally retentive of moisture, I would not trust to this drain alone to remedy the evil, but would insert cross drains, and carefully raise the roots, and plant them again nearer the surface in fresh soil.

I shall, ere long, have to state how one of our ablest gardeners cut down, and root pruned, and elevated the roots of a Vinery in June, 1855, and now has a heavy crop of fine fruit. The doing such things belongs to the initiated, who know how to take advantage of every move, and the smallest slip in judgment or management is nearly impossible. To the comparatively uninitiated, but who can give moderate attention and care, the best time for raising carefully the roots of such a Vinery would be the end of autumn, when the wood is approaching maturity, and the leaves are yet green, though giving the faintest trace of a brown tint. If the roots are taken up carefully, replanted in sweet soil, and the leaves kept from flagging by shading and syringing, roots will be plentifully formed before winter. If even this is too much trouble, as soon as the leaves are browned is the next best time; and then, though shading may mostly be dispensed with, the roots would get on better if warmth was retained about them by covering the soil with litter, so as to keep a medium temperature, for some time, of 55° to 60°. Keeping the border dryish at such a time by throwing off the winter rains will greatly assist the rooting. By such modes I feel confident that tendrilled bunches will be a rare occurrence, should this correspondent report progress. R. FISH.

EARLY SWARM OF BEES.—C. M. had a large swarm of Bees safely hived on the 21st of May, at Didsbury, near Manchester. She merely mentions it, because they were so late last year, every one was complaining.

FLORISTS' FLOWERS.

THE PETUNIA.

It is now nearly thirty years since I visited a small nursery near Leeds, in Yorkshire, for the purpose of seeing a new plant that had leaves like a dwarf Tobacco-plant, and flowers like a *Convolvulus*, of a purple colour! Though so long ago, I shall never forget the intense pleasure the sight afforded me. That plant was the *Petunia phœnicea*, introduced from Buenos Ayres in

1831; and a most lovely flower it was, and, indeed, is now, if it could be found in cultivation. From that species all the varieties we possess are descended. In the same year another species was introduced, *P. violacea*. This had smaller flowers of a most intense violet-blue colour. The two hybridized, and hence we have the various shades of lilac, purple-rose, and violet. To produce a white ground, or white eye, recourse was had to another species, introduced in 1823, viz, *P. nyctaginitiflora*. This has pure white flowers; and it is a singular fact, that seed saved from it produce the species quite true, rarely, indeed, varying the least in either foliage, or colour, or form of the flower. Yet by using the pollen of this species, and applying it to the stigmas of two former species, the white-ground colour is attained. This variation has now reached perfection, even to the production of double flowers. A double white Petunia has been raised, and a fine flower it is, as my description below will prove.

The Petunia is chiefly valued and used as a pot-plant for the ornament of the greenhouse and conservatory, though there are some varieties that are excellent for bedding. To grow the Petunias well in pots requires rather more than common attention. The soil or compost should be light, moderately rich, and open. I have grown them well in the following:—Turfy loam, formed of thin turf taken from an upland pasture, and well rotted down by turning over frequently for, at least, twelve months; decayed leaves a year old; and peat earth from a dry moor; the whole mixed in equal quantities, with a liberal addition of river or silver-sand. Then, at the time of potting, put here and there amongst the soil a few pieces of charcoal about the size of a hazel-nut. This latter material keeps the soil open and permeable for air and water to enter the soil. Then, again, the size of the pots requires consideration. They should never be too large, for this tribe of plants have tender roots, which soon perish in a large mass of wet compost. Water must be given rather sparingly after potting, and never so abundantly as to saturate the soil. The pots should be well-drained, even from a cutting.

Petunias strike easily from small side-shoots planted in sand, in spring, in heat. If the cuttings are put in towards autumn, they will strike best in a cold pit or frame. At whatever season they are put in, they do not require bell-glasses, only shading from the hot sun.

TWELVE SELECTED NEW VARIETIES.

1. *Docteur Andry*.—Fine form and substance; colour a rosy-amaranth, beautifully striped with white.
2. *Hermione* (Smith's).—Ground colour a soft blush white, regularly marked and spotted with bright purple. A novel and beautiful variety for the greenhouse.
3. *Imperial*.—New double white. A beautiful variety, with flowers as double as an Oleander, and very fragrant. A free grower, beautiful as a pot-plant, though there is no doubt it will prove a very good bedding-plant. Should be grown in every greenhouse.
4. *Leon Sequay*.—Regularly striped with violet-purple and rosy-blush. Very handsome.
5. *Madame Eugénie Semichez*.—White ground, evenly striped with purple, distinct, and handsome.
6. *Majestie* (Turner).—Violet-erimson ground, margined with deep rosy-blush, and veined with purple, large and smooth, well-formed. A fine variety.
7. *Major Domo* (Turner).—Rosy-blush ground, with crimson centre. Good form and substance.
8. *Marquise de la Ferte*.—Rose, with pure white throat. Distinct and beautiful.
9. *Marquise de Saint Innocent*.—Beautifully striped like a Carnation. Novel, distinct, and fine.
10. *Picturata* (Turner).—Rich purple, margined distinctly with white. Good form, and medium size.
11. *Purpurea alba* (Turner).—Ground colour purple,

veined with crimson, and margined with white. Very distinct and fine.

12. *Purpurea striata*.—Beautifully feathered with crimson, and margined with blush-white. Good form and habit.

Price 1s. 6d. to 5s. each.

TWELVE SELECTED OLDER VARIETIES.

1. *Alba Magna*.—A fine, large, clear, white variety, much superior to any yet raised.
2. *British Queen*.—Deep crimson centre, with a broad margin of pinkish-blush.
3. *Crimson Perfection*.—Deep crimson, with dark throat; good form and substance. A fine bedding variety.
4. *Favourite*.—Rich, dark rose, with clear white centre. Excellent for bedding or pots; much superior to the old favourite *Shrubland Rose*.
5. *Furst Von Schwarzburg*.—Violet-purple throat, with purplish-red centre, margined with green. Curious and beautiful.
6. *Jupiter*.—White ground, flaked with purple and red. A round, well-formed flower.
7. *La Reine*.—Fine blood-coloured centre, striped on a white ground. Fine form and substance.
8. *Loveliness*.—Violet-purple, edged with white. Good form and medium size.
9. *Mars*.—Dark, showy, crimson-purple. Good form.
10. *Montreal Purple*.—Rich purple, fine form and substance. A good bedding variety.
11. *Ponceau*.—Rosy-purple, with dark-blood centre. Extra good form and substance.
12. *Prince Camilla de Rohan*.—Purplish-erimson, margined with green; distinct, curious, and handsome. A fine variety.

Price 1s. to 1s. 6d.

T. APPLEBY.

(To be continued.)

DRY SOILS AND DRY WEATHER.—ROUTINE WORK OF THE SEASON.

ALTHOUGH a hot summer is, unquestionably, a national blessing, yet there are cases in which it causes a punishing effect on certain growing crops, especially on such as are not required to mature their growth into that condition which we call "ripeness." For instance, a field of wheat is generally benefited by fine, dry weather occurring during the latter periods of its growth, while, on the other hand, Turnips require showers of rain at that time. The one is rapidly drawing towards the close of its existence, the other is expected to grow for several months after; consequently, there is little analogy between them, except that the intermediate kind of weather is often suitable to both, and a beneficial result follows. In the more limited space of a garden there is often some artificial mode open, whereby we may, to a certain extent, improve the benefits of the one case, or lessen the evils of the other. A very dry soil may be so treated as to suffer but little from the effects of continued drought; and, on the other hand, a damp, cold soil may be managed so as to mitigate the evils of its condition. Effectual drainage, followed by deep tillage, will, in a great measure, secure the latter, while deep tillage and the addition of some stiff material will aid the other, assisted with some shading to diminish evaporation, and, if possible, some contrivance to prevent the plant suffering by the adjoining ground sucking too much of the moisture away.

Supposing the soil to be a dry, sandy one, resting on sand, gravel, or stone strata, and the soil or staple under cultivation not deep, we must see if the soil cannot be deepened by breaking up the bottom portion; but if that bottom contain a large portion of pernicious matter,

much of it cannot, with safety, be disturbed without injury; but if it contain nothing that is injurious to vegetation, we may, with perfect safety, trench up a certain quantity of it, and mix it with the upper surface-soil, and if we were to loosen some more of that substratum, and allow it to remain at the bottom, there is every likelihood that it would shortly become sweetened, and fit to receive the roots of plants, and support them in health accordingly; for it is only where the upper stratum gets over-filled with roots that they, of necessity, descend lower in search of food, and if their progress that way be arrested, or nothing wholesome to obtain there, then the plant must either hastily conclude its growth, or its further progress in size must depend upon the air and the addition of manures to the surface.

Active roots supporting a fast-growing plant withdraw moisture from the ground faster than the sun or any other natural cause; therefore it would be well, on very dry soils, not to plant so thickly as on those where there is a greater depth of healthy, moist earth, as the plants by that means, will have a greater breadth of pasturage; yet it would be well, also, to prevent any escape by evaporation, which may be done by covering the surface with some substance that will, in a measure, prevent moisture escaping. Between rows of *Cabbageworts* and similar things this may be done by covering the surface with leaf-mould, or litter of some kind that is not unsightly; but, in fact, this latter objection must not be too much insisted on, as utility is the chief object in the kitchen-garden. Old tan may be laid on amongst smaller-growing things; but I would advise it to have been well sweetened by exposure to the atmosphere, and to have been well watered, so as to divest it of much of that pernicious matter which tan is often now-a-days charged with. Tan is, certainly, not what it used to be in all cases, and if it be soaked in poisonous chemical ingredients, it cannot be expected to part with them very quickly, otherwise its convenient handling might adapt it to many purposes to which it is a stranger; but when it is in a healthy condition, I see no harm from its general adoption as a coating to all ground liable to rapid evaporation, and, as it allows water to pass freely through it, there is the additional advantage of what water is poured on not being wasted by evaporation.

It is somewhat surprising what simple means may assist the various crops suffering from dry weather; a loose upper surface for an inch or two, and the ground beneath that being rather firm, though not sodden, is, perhaps, the best condition for resisting dry weather; a good depth of sweet, healthy soil for the roots to penetrate down into is also necessary; but I would, at all times, advise the surface-soil to be often loosened, and there is the less danger of injury from heat, for the air in the loose soil conducts heat slowly, and the ground underneath becoming warmed, instead of baked, by the sun's rays, a healthy instead of a hasty vegetation is kept going on.

The season has now arrived for sowing and planting certain crops required for another year. *Endive* may be sown at various times after the middle of June. At that time, but not later, the last batch of *Cape* and *Walcheren Brocoli* seed may be put in, and *Celery* planted in succession, as well as the various *Coleworts*, late *Brocoli*, *Brussels Sprouts*, &c. *Turnips*, also, may be sown; but some of this may be put in at various times up to the beginning of September. Care, however, must be taken to ensure a good succession, and in very dry weather all these things require to be shaded on the seed-bed while they are just coming up, as bright, hot sunshine is better calculated to preserve the seed than to germinate it; and, as many of these crops are expected to come into use at a certain day, and must, consequently, be in existence at the proper time, a little extra exertion must not be denied them at the com-

mencement. The last crop of *Peas* may also be put in towards the end of June, although I have seen a very good crop from some sown as late as August; still, the liability the plant has to be attacked by disease when sown at a season so much at variance with its natural period of growth, too much success must not be depended upon. In general, the North of England and moist situations in the West produce good *Peas* without being so late sown as directed above. A cool, moist atmosphere suits them best. Where *Potatoes* are wanted young, these may also be planted now, using sets of last year's produce, which speedily emit roots and form a crop; in fact, I have seen three crops of *Potatoes* from the same piece of ground in one year; the first one being dug up early, and the second one not occupying it more than a month, when the third one was put in. Of course, manure was added each time, and other stimulating agents, as liquid-manure, &c., assisted in improving the crop, not in hastening it on; and, I dare say, if the first crop had been dug sooner than it was, a fourth crop might have been obtained; but, usually, it is better to change the position every crop, the experiments above being only for novelty.

I may here observe that I do not advocate much watering in dry weather; but if a dull, hazy day occurs without there being much rain, I would then recommend all crops to have a good soaking, and before the sun cakes the ground again, let the surface be well broken up as before, and by adopting such simple means as these the watering pot may, in a great measure, be dispensed with, especially where cold spring water has to be applied; for, besides its unduly cooling the ground, I am far from certain that plants derive much benefit from such a liquid. Certainly, its passing through the upper strata of earth filters it; still it is not the kind Nature intended for vegetation to subsist upon. J. ROBSON.

HEATING TWO HOUSES FROM ONE BOILER.

In answer to the correspondent at page 176, I would say, your two houses being divided, place your small cistern near the centre of the two houses, and let it be about a foot or fifteen inches square; let your flow-and-return-pipes run into that cistern; you need plug only the flow-pipe. To make it air-tight, wrap some rag round the plug, which must have a shoulder, to prevent the hot-water from forcing the plug out. Get a flat piece of wood, place it against the plug and side of cistern, which make of wood, the sides and ends grooved in about $1\frac{1}{2}$ inches thick; set your pipes, say, four or five inches bore in the same cistern for the second house, and to run through into another cistern of the same dimensions as the former one. You can feed your boiler from these, and also have tepid water for your plants. This is the plan I adopt. Let the flow-pipes be level with the top flow-pipe.—J. AMPLET, *Walsall*.

NEW LATE WHITE BROCOLI.

At page 171, you give a description of a new late white Brocoli, which I find, on comparing notes, exactly corresponds with one I have in my possession, and of which I am not a little proud, knowing the value of such an acquisition, more especially in the neighbourhood of London. Without in any way wishing to detract from the merits of the "new white May," I will observe, that mine is, in form, very much like a beautifully-grown sugar-loaf Cabbage, very dwarf and compact; some who saw it thought it more to resemble a Cabbage than a Brocoli. It was good up to the third week in May. During the last twenty years I have not seen anything to be compared to it, although, I believe, I have had almost every sort in cultivation.

I shall be most happy to send a small packet for trial to either Mr. Beaton, Fish, or Robson, so soon as I am prepared, should they feel disposed to test its merits in conjunction with other sorts.—GEO. FRY, *The Gardens, Manor House, Lee, Kent*.

SOME ACCOUNT OF AN ORCHIDEOUS HOUSE CONSTRUCTED AT PENLLERGARE, SOUTH WALES. By J. D. Llewelyn, Esq., F.H.S.

I ENCLOSE with this the ground-plan and section of the stove, which I promised to send. These will show the size and shape of the building, and the arrangement of its pipes and heating apparatus, and the manner also in which the water for the supply of the cascade is conducted to the top of the house by means of a pipe communicating with a pond at a higher level. This pipe is warmed by passing with a single coil through the boiler, and terminates at the top of the rock-work, where it pours a constant supply of water over three projecting irregular steps of rough stone, each of which catches the falling stream, dividing it into many smaller rills, and increasing the quantity of misty spray. At the bottom the whole of the water is received into the pool which occupies the centre of the floor of the stove, where it widens out into an aquarium ornamented with a little island overgrown like the rock-work with *Orchideæ*, *Ferns*, and *Lycopods*.

The disposition of the stones in the rock-work would depend much on the geological strata you have to work with: in my case they lie flat and evenly bedded, and thus the portions of the rock-work are placed in more regular courses than would be necessary in many other formations. In limestone or granite countries, designs much more ornamental than mine might, I think, be easily contrived.

The account of the splendid vegetation which borders the cataracts of tropical rivers, as described by Schomburgk, gave me the first idea of trying this experiment. I read in the "*Sertum Orchidaceum*" his graphic description of the falls of the Berbee and Essequibo, on the occasion of his first discovery of *Huntleya violacea*. I was delighted with the beautiful picture which his words convey, and thought that it might be better represented than is usual in the stoves of this country.

With this view I began to work, and added the rock-work which I describe to a house already in use for the cultivation of Orchideous plants. I found no difficulty in re-arranging it for its new design, and after a trial now of about two years can say that it has entirely answered the ends I had in view.

The moist stones were speedily covered with a thick carpet of seedling *Ferns*, and the creeping stems of tropical *Lycopods*, among the fronds of which many species of *Orchideæ* delighted to root themselves.

Huntleya violacea was one of the first epiphytes that I planted, and it flowered and thrived in its new situation, as I hoped and expected. The East Indian genera, however, of *Vanda*, *Saccolabium*, *Aerides*, and other caulescent sorts, similar in habit and growth, were the most vigorous of all, and many of these in a very short time only required the use of the pruning-knife to prevent their overgrowing smaller and more delicate species.

Plants that are grown in this manner have a wild luxuriance about them that is unknown to the specimens cultivated in the ordinary manner, and to myself they are exceedingly attractive, more resembling what one fancies them in their native forests—true air-plants, depending for their subsistence on the humid atmosphere alone.

Different species thus intermingle together in a beautiful confusion, *Dendrobium*, and *Camarotis*, and *Renanthera*, side by side, with wreaths of flowers and leaves interlacing one another, and sending their long roots to drink from the mist of the fall, or even from the water of the pool below.

Many species are cultivated upon the rocks themselves, others upon blocks of wood, or baskets suspended from the roof, and thus sufficient room is secured for a great number of plants. At the same time the general effect is beautiful, and the constant humidity kept up by the stream of falling water suits the constitution of many species in a degree that might be expected from a consideration of their native habits; and I would strongly recommend the adoption of this or some similar plan to all who have the means of diverting a stream of water from a level higher than the top of their stove.

This, I think, in most situations might be easily contrived. My own house lies on high ground, and the water is brought from a considerable distance, but yet I found very little of difficulty or of expense in its construction; for it must be borne in mind that a small

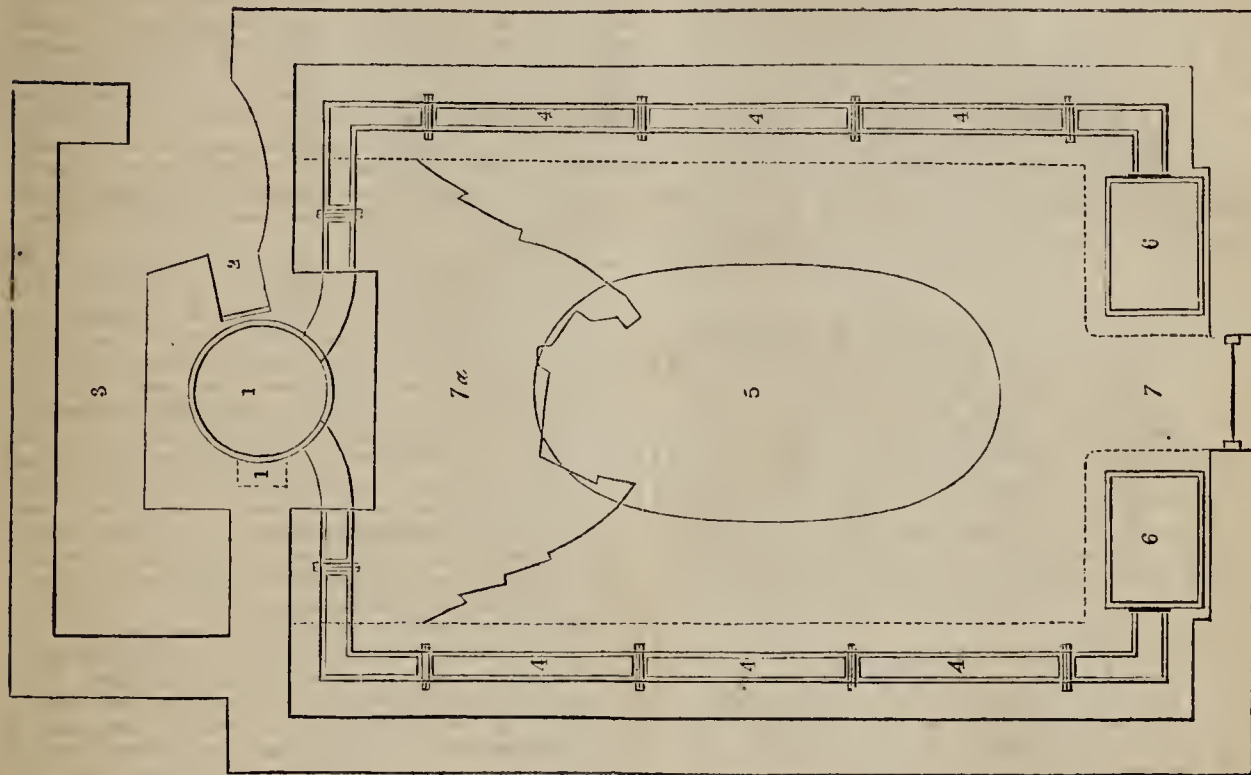


Interior of Orchideous House at Penllergare.

quantity of water is sufficient, and that this, after passing through the stove, might be conveniently used for garden purposes.

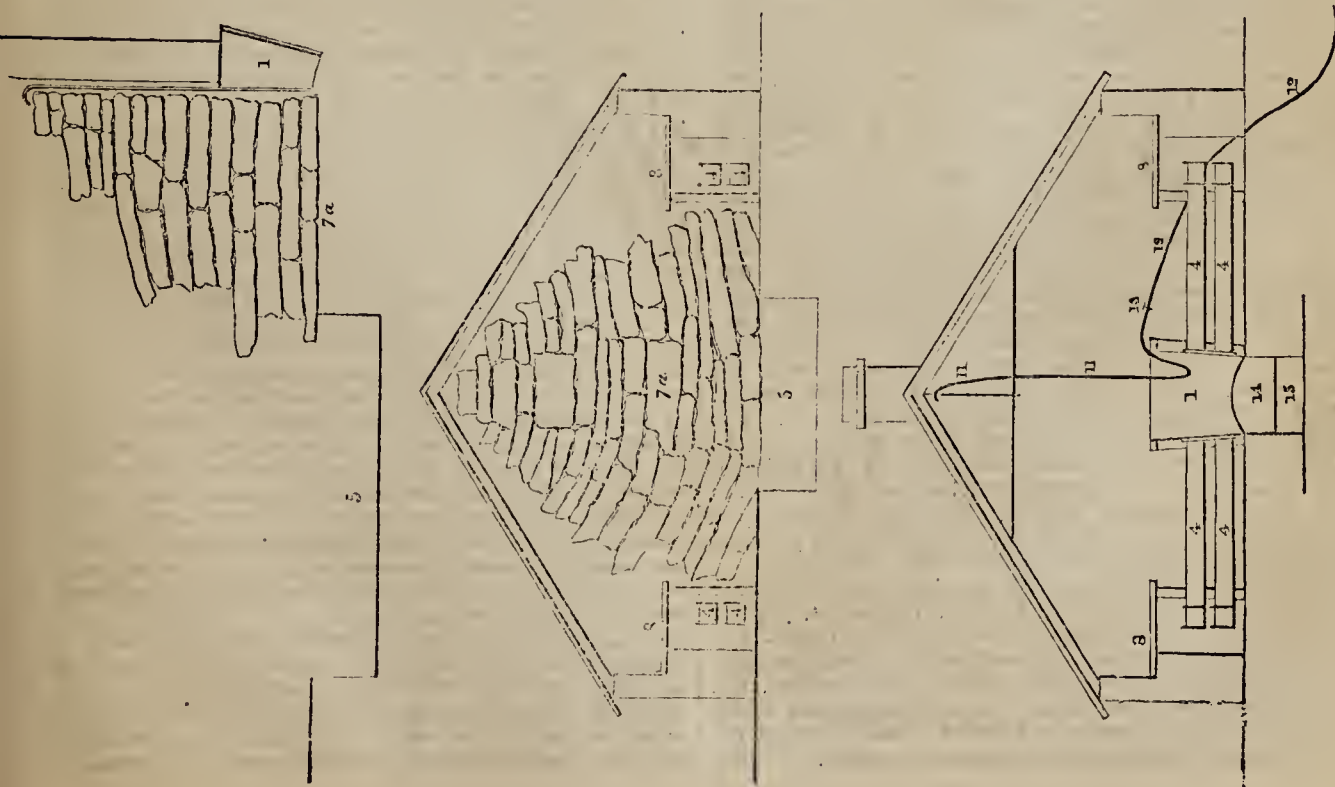
It must be remembered also that this plan may be

added to any existing stove, and that the sole expense will be for the pipe to conduct the stream, and for the labour of the carriage and arrangement of the rock-work.—*Horticultural Society's Journal.*



REFERENCE.

1. Boiler and flue, 2. Fireplace, 3. Coalshed, 4. Hot-water pipes, 5. Water tank, 6. Hot-water cisterns, 7. Doorway, 7a. Rock-work, 11. Pipe with hot-water to fall over the rock-work, 12. Cold-water pipe, 13. Stop-cock, 14. Boiler, 15. Ash-pit.



NOTES FROM PARIS.

THE month of May here has greatly belied its old reputation, for even during the last two or three winters, the weather was never at any time so cold and miserable as it has been, on the whole, during the month that has just expired. For several days and nights near the end, rain fell in torrents for fifteen, twenty, and even thirty hours, without intermission. Frightful inundations have occurred in many parts of the country, more particularly in the vicinity of the Rhone. Not only have the crops been much damaged and destroyed in several quarters, but cattle and farm produce generally have been swept away by the irresistible floods; while towns and villages have been submerged, and a great number of houses destroyed. The loss of life and property, when the full accounts are given in, will be very great. But as the darkest hour of the night is just before the dawn, so the last three days of May exceeded all the others for rain and cold wind; but June has come in like a timely deliverer, sending his voice forth above the noise of the combat, and calming the strife of fierce passions.

M. Gustave Heuzé, in a recent number of the *Revue Horticole*, has a notice of a new variety of Radish, called "Radis de Chine," which is somewhat remarkable, on account of its unusual size. It is said to have been introduced by a French clergyman, M. l'Abbé Voisin, to whom seeds were sent, one or two years ago, from a member of the Chinese Mission. This novelty is nearly cylindrical in general outline, but it swells considerably at the lower extremity, where its diameter is about two inches. It is from three-inches-and-a-half to four-inches-and-a-half in length, and of a clear carmine colour. It is recommended as an excellent variety for winter, having an agreeable flavour, and in every way superior to the winter sorts in general cultivation.

In the same number there is a figure of the *Oignon jaune de Danvers*, which I mentioned in my Notes inserted in your number for February 5th, page 332. If the figure is correct there seems no good reason for applying the name *jaune* (yellow) to this variety, which, in other respects, would appear to deserve all the merits ascribed to it.

In connection with these novelties, M. Heuzé recommends a trial of Indian Corn, in a green state, as a substitute for garden Peas at the end of the summer, when the latter become too dry and hard for use. It appears that such is the custom in some parts of the American Union. The climate in the south of France is warm enough for ripening Indian Corn, and it is warm enough round Paris for getting it to that state of maturity in which the seeds might be employed as recommended. Already several experiments have been made here, and the results are satisfactory, for it has been found that Indian Corn, in a green state, is fit for use by August and September, according to the degree of latitude. For this particular purpose three distinct varieties have been cultivated, all having a sugary taste, viz.:—*Maïs sucré*, *Maïs sucré à râfle rouge*, and *Maïs sucré à râfle blanche*.

The Agricultural Exhibition was duly opened on the first of the month. It will very likely be open till the 15th or 16th, although the prizes will be awarded on the 10th. The charge for admission is one franc. The 11th and 12th are fixed for the sale of the live stock and implements, either by private bargain or auction. But I may observe that a great number of the cattle were bought up at the very outset. This was particularly the case with some of the Ayrshire cows, which fetched handsome prices. The trials of machines and implements are to take place on the 11th, but only such as can be tried in the *Palais* or its inclosures. The other machines will be tried on the 12th, in the open ground near Villiers. A number of artists are occupied every day in taking the portraits of the principal subjects in the various departments.

The vicinity of the *Palais* is like an immense farm-yard—all animation and activity; I mean that quiet, jog-trot activity which becomes the well-fed, heavy countryman. The daily produce, such as eggs and milk, are sold over the wooden pailings to the people of the neighbourhood, and even many come from a distance to make a purchase in this way. There is generally a bit of a scramble to get the milk, which is supposed to be pure and undefiled. In any

case, most people are willing to admit that the milk of those beautiful cows, certain to have been fed on the richest pastures, as certain to fetch a prize to their owners, and which have, no doubt, already realised fine prices, must be infinitely superior to the chalk and water which is manufactured by the milk dealers round Paris.

The outside of the *Palais*, as well as the poultry-yard, has been tastefully ornamented with plants and flowers, and agricultural devices have been erected at the principal entrances. Even the light canvass sheds and booths are painted, so as to look like so many rustic houses. In front of the building several large statues (in metal, I presume) have been erected lately: one represents the great naturalist, Buffon, and another "the father of French agriculture," Olivier des Serres, born in 1539, and died in 1619. Another of the statues, certainly the best as a work of art, is that of Cardinal Fesch; but what the Cardinal has to do with a cattle-show I cannot learn or understand, though it is reasonable to suppose he had some considerable knowledge of Roman Bulls.

With the exception of one day (the 5th), which was a day of continual rain, the weather has been fine since the opening of the Exhibition. As might be expected, great numbers of people go to see it every day. I have heard many say that it is, if not so grand and beautiful, at least more inviting than the Exhibition of last year. There can be no doubt that the Parisians are well satisfied with it, for it gives them a convenient view of country life. They can, at any time, see pictures and statuary, with no end of gold and silver ornaments—indeed, almost everything of which last year's Exhibition was composed, and that, too, in only walking along the Boulevards and the other principal streets. But they cannot, every day, have the pleasure of walking among such fine animals, and inhaling the very atmosphere of a farm-yard. It is no ordinary treat to see the farm-servants working among the hay and straw, as they do in their native villages, and nearly in their every-day costumes. Then there is the occasional grunting and squeaking of the fat, unwieldy pigs, the bleating of the large and thickly-woolled sheep, the subdued roar of some enormous ox, or some moderate-sized good-milking cow, with no end of gabbling, crowing, and cooing from the poultry-yard. The galleries are full of implements, and those things which belong more particularly to what are called farm products; that is, everything not included in the class for live stock which a farm is capable of producing, as cured bacon, home-made wines, cyders, beers, and other beverages. There are, also, innumerable collections of roots and seeds, with samples of grasses and cereals. One of the best collections in this way is from Algeria; another, equally good, is shown by Messrs. Lawson, of Edinburgh and London. But most of the exhibitors of farm products belong to France.

Looking down from the gallery along the nave, the visitor has a good view of the admirable display got up by the Imperial Society of Horticulture, and which, in forming a distinct exhibition, is a powerful auxiliary to the other. The whole of the large space, bounded by the galleries all round, has been transformed into a fairy garden, having gracefully winding walks, beautifully fresh lawns studded with statuary, large, ornamental evergreens, and clumps of the gayest flowers. About 6000 superficial yards of turf were brought for the purpose from the plains of Issy and Autenil some weeks ago, and now the grass is of the richest green. It is not improbable that this delightful Exhibition will be kept open some days longer than the time fixed for the duration of the Agricultural Show. Among the more striking objects which meet the eye at a first glance are large *Magnolias*, of M. Leroy, of Angers. These are fine, healthy trees, of from twenty to twenty-five feet high. There are, also, several handsome *Conifers*, about thirty or thirty-five feet high, planted here and there, and apparently quite fresh. Some half-dozen of standard specimens of *Laurus nobilis* claim notice, not only because of their own merits as ornaments, but also because they are stated to have been given by the first Emperor to Marshal Massena after the battle of Essling, in 1809. The elegant fountain in the centre of the building has been effectively set off with circles of Hydrangeas, Roses, Verbenas, Forget-me-nots, and miscellaneous annuals. Plants of *Richardia Æthiopica*, in bloom, are placed near the centre-piece in the water. Some elegant

bronze and marble statues are placed here and there on the lawn; the principal is that of the Empress Josephine.

In its general outlines this Exhibition has but little that can be compared to the Shows at Chiswick and Regent's Park. It has been got up more like a *jardin d'agrément* than a series of collections for the quiet scrutiny of impartial judges. There are no benches whatever, and the only railing is that which forms a boundary to the garden. The ground is marked by gentle undulations, and the different collections occupy so many oval or circular clumps near the walks, so that the public are enabled to examine and admire the objects before them with facility; but going off the walks is strictly prohibited. I suppose the Judges, however, were allowed to take exception to this law when they found it necessary. Several of the clumps are filled with Coniferae and other evergreens. In this class may be seen about a dozen fine young trees of *Araucaria excelsa*, *A. imbricata*, *A. Bidwillii*, and *A. Cunninghamii*. There are, also, numerous neat plants of *Cryptomeria japonica*, *Fitz-Roya Patagonica*, *Saxe-Gothaea conspicua*, and similar esteemed sorts. In one group I noticed a very healthy and well-grown specimen of the graceful *Thuja Doniana*, two feet high. MM. Jamin and Durand have *Araucaria imbricata*, *Juniperus oblongo pendula*, *Thuja aurea*, *Pinus strobus*, *Abies Webbiana*, *Cupressus glauca*, and one or two examples of *Taxodium sempervirens*. A fine young tree of *Abies pinsapo* is shown by M. Lesieux, of Calvados; it is ten feet through, and, perhaps, eight feet high. This is grown as a single specimen on the lawn. A good collection is contributed by M. Remoin, who has received a gold medal. The best are *Araucaria imbricata*, seven feet high; *A. excelsa*, seven feet; *Cryptomeria japonica*, twelve feet; *Abies morinda*, twelve feet; and *A. pinsapo*, seven feet through. M. Cappe has small plants of the more recently-introduced sorts, as *Fitz-Roya Patagonica*, *Cupressus funebris*, *Saxe-Gothaea conspicua*; also, neat examples of *Abies pinsapo*, *Pinus monticola*, *Abies picta*, and *Libocedrus Chilensis* (*Thuja Doniana*). Perhaps the largest exhibitor of ornamental evergreens is M. Leroy, of Angers, who has, in addition to the Magnolias already mentioned, an extensive assortment of Coniferae, as *Abies Cephalonica*, *Pinus Gexardiana*, *Abies Douglasii*, *Cryptomeria japonica*, a neat *Thuja aurea*, the pretty drooping *Araucaria Bidwellii*, and *Pinus Australis*, remarkable for its long needle-like leaves. The same exhibitor has also a rich collection of Hollies, including *Ilex opaca*, *furcata*, *diphyrena*, *latifolia japonica*, *ligustrina*, and *Magellanica*. A third collection contains examples of choice Oaks, as *Quercus laurifolia*, *annulata*, *incana*, *macrophylla*, and *undulata*.

It is somewhat singular, that among so many collections of ornamental evergreens the beautiful *Cedrus deodara* is scarcely represented. Such examples of it as I observed are not worthy of the place or the occasion.

By far the most effective part of the show is that occupied by the larger bushes of *Rhododendrons*, *Kalmias*, and *Azaleas*, all a little pale and drawn, to be sure, but still all very pretty, without containing anything like the new and brilliant varieties to be seen during the season at Bagshot and Knaphill. There is but a limited turn-out of *Roses* of the best collections, or, at least, that which was most admired was composed of standards, about five feet high, covered with leaves and flowers from the very bottom. The owner's name did not appear. Altogether, the arrangement of the *Roses* is not unlike that of the Regent's Park.

M. Vilmorin, of Paris, has a large clump of mixed annuals arranged with much taste. There are two or three rich collections of *Pæonias*, cut; one of the best is from M. Peté, of Rue de l'Ourcine. MM. Tollard have a showy bank of miscellaneous flowers, including a good many choice annuals. With the exception of Coniferae, Palms and Cycads are perhaps the most numerous. One of the best collections is that of M. Desmontes, who has a beautiful *Areca rubra*, about fourteen feet high, a *Cycas circinalis* fully twelve feet through, together with fair examples of *Cycas revoluta* and *Chamerops humilis*. There are two superb specimens of *Pandanus*, in a similar collection, shown by M. Le Chevalier. M. Linden, of Brussels, has an interesting collection of new plants, at least, such as are said to be new to this side of the channel. Of these one or two may be mentioned, as *Juglans Granulensis*, received from New Granada in 1854; *Calophyllum madruuo* (marked 1855); *Drymis Mexicana*

(also 1855); *Limaruba versicolor* (Brazil, 1855); *Maranta Pardina*; *Olmedia ferox* (New Granada, 1855); *Ropala princeps* (1855). These, like the others in the collection, are remarkable for their large and handsome foliage or graceful habit of growth. The *Ropala*, for instance, is striking in respect to the latter particular, but none of them are in flower.

The only collection of what we call stove and greenhouse plants is from the garden of the Baron de Rothschild. The plants in this group, for which a medal of honour has been awarded, are evidently grown according to English models. A better *Medinilla magnifica* is not often seen, or so profusely flowered. There is a superb *Epacris miniata*, about four feet through, a neatly-grown *Pimelea Hendersonii* fully three feet through, and equally good examples of *Chorozena Henchmannii*, *Colocasia rubra*, *Aphelaxis spectabilis*, and *Acacia grandis*. Besides these there are several standard Indian *Azaleas*, which occupy the centre; but they are about over, and the stiff, parasol-like fashion in which they have been trained is not much to their advantage. There are only a few single specimens; the best are *Pimelea Hendersonii*, and a somewhat lanky *Allamanda*.

There is only one small collection of Orchids. The exhibitors are MM. Thibaut and Keleleer, to whom a gold medal has been awarded. The plants are *Cattleya Mossie*, with five flowers; *Cypripedium barbatum*, six flowers; *Aërides roseum*, two spikes; *Cattleya intermedia*, seven flowers; *Phaleuopsis grandiflora*, three spikes; *Cattleya superba*, seven blossoms; *Saccolabium guttatum*, two spikes. *Sobralia macrantha*, *Calanthe veratrifolia*, and *Oncidium ampliatum*, as third-rate examples, complete the list.

One of the prettiest objects of the show is the *Lilium giganteum*, contributed by M. Trufaut, nurseryman of Versailles. It is fully eight feet high, and has some twelve or fourteen flowers expanded. Underneath is a beautiful clump of *Ranunculi*, by the same exhibitor. M. Guerin shows a rich collection of tree *Pæonias*, which, however, do not seem to be for competition.

Some eight or ten Pine-apples are shown by M. Gontéer, of Montrouge, but for the most part they are not ripe. Several young Cherry-trees, in pots, have been contributed by M. Charneux. There is also a basket of miscellaneous fruit from the Imperial Garden of Versailles, comprising a Melon, a Pine-apple, some Grapes, and Strawberries. But there is nothing worthy of more particular notice in the way of fruit.

Several contributions of kitchen vegetables have been sent, as varieties of Peas, Haricots, young Potatoes, Carrots, Cabbages, Leeks, Onions, and Asparagus. Such as Cabbages, Salading, and Cauliflower, are established in the soil as if they had been there for several weeks or months, as fresh and vigorous as possible.

M. Langlais has some fine examples of Cauliflower, about ten inches in diameter. M. Herault, of Argenteuil, shows some Asparagus, which are the wonder of everybody, for length and thickness. One of the largest collections of culinary vegetables is from the Horticultural Society of Nantes. In a collection shown by M. Thebrow, there are some Leeks two-inches-and-a-half in diameter.

But I must leave further details for another time, and shall just add here, that besides what I have noticed, there is no lack of *Pelargoniums*, *Verbenas*, *Cinerarias*, *Gloxinias*, *Ferns*, *Aloes*, *Petunias*, and other things, which enter into the details of an exhibition.—P. F. KEIR.

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO. VIII.

THE PLEASURE-GROUND—WALKS—SHRUBBERIES.

(Continued from page 151.)

THERE are, of course, many points in the laying out of a garden which can be much more readily decided on by the examination of a well-constructed plan than in any other way. One of these is the relative proportions of, and connection between, the shrubberies and open lawn. If too

much of the former is present, the character of the grounds will be gloomy; and if the latter preponderates, a mean appearance will be the result. In a happy combination and relative proportion of these prime elements of garden scenery consists much of its beauty. Nor must the walks be forgotten in this studied combination. They should take a prominent position. Between them and the shrubberies there must exist a near connection. Each should seem to be a natural attendant on the other. But these chief features of a garden, viz., walks, shrubberies, and lawn, with other accidental concomitants, as water, buildings, statuary, rustic seats, flower-baskets, stock-work, &c., will best be treated under separate heads, though the space devoted to each must necessarily be brief; and, first, of *Walks*:—

Their direction should claim especial attention when forming a new place. They should comprise, as it were, the skeleton upon which the general grounds are to be moulded. From them the principal views, both within and beyond the boundary of the garden proper, will be almost exclusively enjoyed; and from this circumstance their direction should be a paramount consideration when arranging ornamental grounds in any situation whatever. All the more advantageous spots must be seized upon to bring the spectator in presence of the best views in the course of a ramble round the place. In carrying out this, the force of what was urged in a former paper with reference to deciding upon the main features of every garden upon the ground itself, rather than trusting merely to a pleasing combination of walks, shrubberies, and flower-beds, as indicated upon a plan without actual reference to the character of the situation on which it is to be worked out, will be appreciated. Much has been said and written upon the necessity, or rather, expediency of concealing, as much as possible, the walks in ornamental grounds; and in very many instances much expense has, as I think, been unnecessarily incurred in reducing it to practice. If walks are well made, and their lines of direction easy and graceful, they become by no means unimportant items in the general whole. A bold sweep of walk, with its proper appendages, ever forms a very pleasing view, whether in reality or in pictorial representations of garden scenery. Of course, I do not mean that all the walks of a garden should be studiously displayed. What I allude to principally is, the importance which many persons attach to the concealment of every walk in a garden, which is often carried to an extent bordering on affectation. Yet, in most gardens of limited extent, as well as in many others, under certain circumstances, instances will occur in which it will be very desirable to conceal one walk from another; but, as a general rule, such a practice need not be studiously attended to. Walks are not only a necessary, but a highly characteristic feature in a garden; and there cannot, certainly, be any just reason assumed, upon any principle whatever, for rendering a garden destitute in appearance of what is so essential in reality; at least, such is my view of the case. But although gravel walks are capable of constituting very pleasing items among the various matters that go to make up the completeness of a garden, they may, on the other hand, be very readily converted into blemishes, as they often are. A line of gravel winding across a lawn in a series of tortuous and inelegant curves, without any real or apparent cause for such meanderings, is always an offensive object, and one that impresses the mind with an idea of littleness, of meanness, no matter how fine the situation it may occupy, or how beautiful the gardens to which it belongs. The direction of a walk should always seem to arise from some cause. The object for every deviation in its course should be apparent, and seem to grow out of the circumstances natural to the situation; and if no perceptible cause *does* naturally exist for any such deviation, it is the business of art to create one.

The width of walks, too, is a matter worthy of a little consideration; for, beyond the comfort and convenience of a walk of ample breadth, a garden derives no little importance from this apparently trifling circumstance. A walk of no greater breadth than three or four feet has a mean and confined appearance; and it imparts that undesirable feature to the garden in which it occurs, especially if the lawns are broad and the shrubberies extensive. Except in gardens of very limited extent, seven feet is by no means too wide for an ordinary walk. That width affords ample space for three

or four persons to walk abreast; and such a walk, if laid down with bold and well-defined curves, will give an unconstrained aspect to the lawns and shrubberies about it.

Walks should never branch from each other at very acute angles; for, independent of other considerations, such an arrangement is generally more or less inconvenient, and is at the same time, rarely necessary; and if the space between two walks, at such a junction, were to be planted, it could not be successfully accomplished. Again, the common practice of gradually blending one walk into another, and thereby creating a large and very unnecessary space of gravel at the junction, should be avoided, if a neat and artistic character is to be preserved. Another very common error in the construction of walks is their convexity. To such a height (I did not intend a pun) is this, in some instances, carried, that when two persons are walking side by side, both are subject to great discomfort. The only comfortable position, (and that is often questionably so,) on such walks, is immediately in the middle—on the top of the ridge as it were. No ordinary walk should rise more than one inch in the middle; *i.e.*, the side should be one inch below the grass margin, and the middle level with the grass. This is always a safe rule for guidance. The very great difference in appearance between such a walk, and one on the convex principle, will be obvious at a glance; the latter is both inelegant and inconvenient, the former just the reverse. The grass margin of walks should never present a harsh line of bare earth; the grass itself should be brought down to the gravel, or nearly so; but, nevertheless, the margin must be well defined.

The *Shrubberies* and walks should, as before observed, seem naturally attendant on each other; the latter will, therefore, in a great measure, guide the arrangement of the former; for, as a general rule, the shrubberies should be confined to the outside of the lawns, of which the walks are the primary divisions and boundaries. It is the office of the shrubberies, too, to throw into a symmetrical and well-balanced figure every detached lawn, of which a large garden will present many; for, no matter whether a garden scene owes its attractiveness to a simple picturesque or to a geometrical arrangement, if it is pleasing, symmetry will be found to be an important element in producing that pleasure. I need scarcely observe that symmetry is not necessarily formality. A geometric garden, as well as a building, may possess both qualities combined; but, on the other hand, a picturesque scene may be wholly destitute of formality, as it necessarily must be, to become entitled to the term picturesque, and yet possess symmetry in an eminent degree.

Gardens which are characterised by their intricacy, rather than by large lawns and detached shrubberies, are apt to degenerate into mere labyrinths of walks, confined between uniform hedge-like belts. This should be avoided, because intricacy and *presumed* extent may be, and very often are, purchased at the expense of freedom. The belts of shrubs, in such gardens, should be frequently broken on either side, to allow of voluntary escape for the eye as well as the foot, and to banish all feeling of restraint, which is the speedy forerunner of satiety and disgust. Such breaks ought always to be made where something pleasing can be brought into view, something to interest, something to destroy the monotony, which is too characteristic of our gardens in general. Nor is it necessary to command distant views for such purposes; a handsome specimen on the lawn, or in a neighbouring shrubbery, a flower-bed, a rustic basket, or a pole of Roses, will effect the result intended.—GEORGE

LOVELL, *Landscape Gardener, Bagshot.*
(To be continued.)

THIRTEENTH ANNIVERSARY DINNER OF THE GARDENER'S ROYAL BENEVOLENT INSTITUTION.

THIS anniversary was held at the London Tavern, Bishopsgate-street, on Wednesday the 11th inst., when the chair was occupied by Sir Joseph Paxton, M.P., supported by Sir Charles Fox, Edward Crossley, Esq., M.P., Lieut. Paxton, J. J. Mechi, Esq., Arthur Henderson, Esq., and numerous other gentlemen interested in horticulture.

The room was tastefully decorated by a profusion of flowers, chiefly Geraniums, from Mr. Charles Turner, of Slough, which formed a solid bank of beauty behind the Chairman. The tables were also ornamented with plants in pots and cut-flowers, from Mr. Veitch, of Chelsea, Fraser, of Lea Bridge Road, and gardeners of the nobility. An excellent dessert was also contributed from the gardens at Trentham, Dalkeith, Chatsworth, and other large establishments.

The dinner was admirably served, and after the cloth was removed

The CHAIRMAN proposed the health of "Her Majesty the Queen," who he described as a great patroness of gardening, and a warm friend to this Institution. After the health of "His Royal Highness Prince Albert, and the rest of the Royal Family," the Chairman proposed that of the "Army and Navy," which was responded to by Lieut. Paxton.

ARTHUR ANDERSON, Esq., proposed the health of "His Grace the Duke of Devonshire, K.G.," President of this Institution, and the munificent promoter of the science of horticulture.

Sir CHARLES FOX, in returning thanks for his Grace, said he felt it a great pleasure to be present on this occasion, and that as a native of Derbyshire, and from his youth having known the Duke of Devonshire, he believed there was no person in England who so completely supported the character of an old English gentleman as his Grace; and there was no one, he believed, who took a deeper interest in the welfare of those about him. He liked his private even more than his public character, as he never did or said an unkind thing.

Sir JOSEPH PAXTON said he would have great pleasure in conveying to his Grace the tribute they had that evening paid him. He had had an interview with him that morning, and was struck with the interest his Grace looked over the subscription lists, and the earnestness he manifested in the welfare of this Institution.

At this stage of the proceedings, the CHAIRMAN proposed what he would term the toast of the evening, which was, "Success to the Gardener's Royal Benevolent Institution, and long may it prosper." He said, if he had nothing else to do than to drink to this toast, his task would be an easy one; but as he had something more to do by asking the aid of this meeting towards its support, an important duty devolved upon him. He believed the institution was in a prosperous state, and there was no reason why it might not be even more so, if every one who was engaged or connected with it were to do their best by bringing in new subscribers. He read a statement of the financial position of the charity, and then adverted to the smallness generally of gardeners' wages, which he said were frequently notoriously so. And he could not help observing that the gardener occupied, in this respect, an unfair position compared with mechanics and artisans, many of whom, as his friend Sir Charles Fox could testify, were men receiving from £2 per week and upwards. He was convinced the gardener had not the same opportunity of asserting the dignity of labour, which, however, he believed to be caused by the supply being always equal to the demand; and if gentlemen would look over the list of those employed by them in places of trust, they would find that the gardener was always the worst paid. In consequence of this, and a large family, they were often, late in life, driven to seek aid from this institution, which was especially formed to meet such cases. He, therefore, hoped that the gentlemen present would not only be liberal in their subscriptions, but that when they returned to their several homes they would set about obtaining contributions to this most excellent institution.

Mr. MECCHI, in proposing the health of Sir Joseph Paxton, believed, that not only in the present time, but in days to come, the name of Paxton would be honoured. He would say, in the words of his friend Lord Braybrooke, that "there was nothing in the laws of this country to prevent the humblest individual from becoming what he (Lord Braybrooke) was—a peer of the realm"—and Sir Joseph Paxton was one of those who fully exemplified this. Let any one go to Sydenham, and see the vast structure he had erected there, a work worthy of the greatest genius, and they could not fail to admire his taste and judgment. Architects, he said, were fond of building structures of

bricks and mortar, with loop-holes for windows; but this was one which was all window, and no bricks and mortar. "In fact," said Mr. Mechi, "Sir Joseph has let daylight in upon us." Long may he be spared to carry out the great work he has begun.

Sir JOSEPH, in returning thanks, said, "I happened to come in the flood-time, and by the energies that God had given me, and by the able assistance of many eminent men, I have been enabled to carry out these great works, and to attain the position I now occupy." He stated, that although he had succeeded in his endeavours, he had been ably assisted by many gentlemen, to whom he owed much.

Sir Joseph then proposed the health of F. Crossley, Esq., who, he said, had very liberally presented the town of Ilalifax with a free park, laid out at his own expense.

The SECRETARY then read his report, in which he stated that the Institution was never in a more flourishing condition than at present. They had, since the last meeting, obtained the proceeds of the sale of the Stanwick Nectarine, which amounted to £262, which, being added to the funded stock of the charity, made it amount to £4000.

The donations received at the dinner amounted to £270.

The health of the Treasurer, Mr. Wrench, was then proposed; and afterwards that of Mr. Cntler, the Secretary, of whom the Chairman spoke as being an officer of indefatigable energy in promoting the objects of the Institution, and who, he considered, was under-paid, seeing the devotedness he exhibited in working for the welfare of the charity.

The CHAIRMAN then proposed "Success to Horticulture," coupled with the name of Mr. Spencer.

Mr. SPENCER, in an able and eloquent speech, returned thanks on behalf of himself and his brethren engaged in horticulture, and took occasion to remind Mr. Mechi that good farming was only good gardening on a larger scale, and that he would wish all gentlemen who wanted their land profitably cultivated to take an example from the market-gardeners round London, who, for a long series of years, had practised that deep tillage and heavy manuring which Mr. Mechi now so zealously advocated; and that from such a course our national resources would be largely increased, and proprietors amply remunerated.

The CHAIRMAN then proposed "The Strangers present;" to which Mr. Fox replied.

In an elegant speech the proceedings were concluded by the CHAIRMAN proposing "The health of the Ladies," whom he designated "the flowers of creation."

Among the subscriptions at the dinner were the following:—

	£	s.	d.		£	s.	d.
His Grace the Duke of Devonshire	21	0	0	Fox, Henderson, and Co. (annually)	5	5	0
Sir Joseph Paxton, M.P.	25	5	0	Proprietors of COTTAGE GARDENER	5	5	0
Lieut. Paxton	10	10	0	Peter Lawson and Son ..	5	5	0
J. and C. Lee	10	10	0	J. J. Mechi, Esq.	5	5	0
F. Crossley, Esq., M.P.	10	10	0	James Veitch, Esq.	5	5	0
R. Smith, Esq.	10	10	0	Richard Woods, Esq. ..	5	5	0
A. Anderson, Esq.	10	10	0	R. Hanbury, Esq.	5	5	0
Jos. Martineau, Esq.	10	10	0				
Jno. Spencer, Esq.	10	10	0				

THE SCOTTISH PANSY SOCIETY'S SHOW AT EDINBURGH.

THIS Society, having for its object the cultivation and improvement of the Pansy, held their first exhibition for the season in the Caledonian Horticultural Society's Garden, Inverleith Row, on Thursday, the 5th inst. The day was cheered by the first smiles of summer; the garden was in beautiful order, and, had it not been for the unusual backwardness of the season and late heavy rains, we might have expected a very great display of "the little Western flower" so peculiarly adapted to the climate of Scotland. From these causes, however, the number of competitors were one-third short of last year, and the general quality of the blooms, in our estimation, considerably inferior.

There were only forty-three stands entered for competition, containing 480 blooms.

Amongst the leading flowers of the day we observed the following conspicuous throughout the stands, and always maintaining their excellent properties:—*Cyrus*, *Jeannie*,

Royal Standard, *Alice*, *Sir Colin Campbell*, *Lord Raglan* (Paton and Small), *Lord J. Russell*, and *Royal Albert*. These were shown in excellent condition, and seemed to surpass all others. The best single blooms selected from all the stands were—*Cyrus*, yellow ground; *Royal Standard*, white ground; *Jeannie*, dark self; and for the best bloom of any sort *Jeannie*, again, came off triumphant. At a certain stage this is, perhaps, the finest dark self in cultivation, but must be taken when young, or traces of age soon rob it of its charms.

Amongst seedlings we observed several blooms of a highly promising light ground from Messrs. Dickson and Co., named *Countess of Roslin* and *Col. Windham*, a cream ground, which we should like to see again in better condition. Messrs. Downie and Laird exhibited four blooms of a large yellow ground, named *Duchess of Wellington*, an improvement on *Lady Emily*.—J. R.

TO CORRESPONDENTS.

HARDY FERNS (J. J.).—In the Chelmsford Schedule of Prizes, and in Class 29 for "British and Hardy Ferns," we think you might show *Struthiopteris Germanica*, *Adiantum pedatum*, and *Woodwardia radicans*; but not *Asplenium viviparum*. This is a stove Fern, a native of the Mauritius. You surely cannot have the true species, if it was, as you say, "growing out-of-doors all last winter."

STRAWBERRIES FOR FORCING (T. E.).—Have equal numbers of *Kean's Seedling* and *Hooper's Seedling*. The runners being first rooted in small pots; then, when these are filled with roots, the plants must be turned out into the fruiting pots, the best for which purpose, we think, are 5-inch (old 32s). If you refer to our 237th number you will find full directions.

REMOVING BEES (A Clifton Subscriber).—This is most destructive, unless the hive has to be taken a long distance from their proprietors. If it is imperative that they are to be moved to some other part of the same premises, do so a foot at a time, and allowing a day to elapse between each removal even that small space.

KITCHEN-GARDEN (Ty.).—Not knowing either your soil or situation, nor the vegetables preferred, nor the size of the garden, we cannot advise. Buy "Gardening for the Many," one of our Manuals; for threepence you will learn all the needful successions of crops and operations.

PINK LABURNUM AND PINK BROOM (Goddess).—The Pink Laburnum is common enough, and the name of that one is *Adamiti*. A Pink Broom is a rarity. But what is "pink?" There are pinks of all colours; and there are three shades in the cream-coloured Broom, one of which is pinkish at first coming, or when going off, we forget which. Could you not send us a flowering specimen, in damp moss, with some flower-buds not yet open?

LAWN MOWERS (B. P., Nantwich).—We have had no experience of the comparative merits of the two Mowing Machines you mention, but we believe both to be good.

NAMES OF PLANTS (A. Hall).—1. Not certain; it is like a variety of *Pyrus aria*. 2. *Lonicera xylosteum*, or Fly Honeysuckle. 3. *Ornithogalum umbellatum*. (W. A. M.).—*Lithospermum maritimum*, or Oyster Plant; its flavour resembling that of the oyster.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries close June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol. Entries close 26th of May.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. 27th. Nov. Sec. E. Trinder, Esq., Cirencester.

HULL AND GREAT BRING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NORWICH. June 20th. (Norfolk Agricultural, for Subscribers only.) Sec., Mr. E. C. Bailey, Little Oxford Street, Norwich. Entries close May 31st.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

PRESCOT. July 8th. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

THORNE (Yorkshire). June 18th. Sec. R. S. Jewison, Esq. Entries close June 11th.

WHITBY. July 16th and 17th. Sec. S. Burn, Esq., 1, East Terrace, Whitby. Entries close June 30th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

THE WINDSOR POULTRY SHOW.

THE second exhibition of the Windsor Association was held in the same locality as last year. We feel it our duty to remark here, that those who absented themselves, on account of their objection to the spot, lost a treat for themselves, and did injustice to the enterprise of the committee. Everything that was objectionable was removed. A covered way led from the street to the exhibition, which, held in a spacious and strong tent, afforded at this time of the year every protection that the most anxious poultry-owner could desire. *Cooke's Pens* ensured uniformity of appearance in the Show, and comfort and safety for the birds; they cannot be brought too prominently before the notice of committees. Most amateurs know that this exhibition was held at the same time as those at Paris and Yeovil, and although it may be said the numbers, perhaps, suffered in consequence, yet no one will deny that many of the best and most valuable birds in England were to be seen here. A remarkable feature was the absence of mediocrity, and it proves that, in spite of all that has been said and written about published rules for judging, the public is quite aware of the requisite points for success. We have never visited a Show where more care was taken of the birds. We attribute this, in a great measure, to the fact, that all the working committeemen are well-known amateurs, and that the limits of the Show allow an unceasing personal superintendence, which these gentlemen efficiently and willingly give. It was refreshing to see the piles of sods covered with growing grass, and to know that every pen was destined to be partly carpeted with it.

We know not when the age of gold may arrive for our feathered favorites; but it is true that they have arrived at that of silver, for here, as elsewhere, good cups and goblets of this precious metal were the rewards of excellence. How many rejoiced before that most tempting pen in the tent, which, lined with dark blue cloth, displayed on rising shelves the glittering cups; and how many vowed, as a burly countryman did in our hearing, "that it should go hard with him and his fowls if he didn't drink out of such an one before long." The ladies, too, had been at work: a white cloth band was suspended across the tent, on which the following quotation was beautifully worked in leaves:—

"'Tis not in mortals to command success;
But we'll do more, Sempronius, we'll deserve it."

We hope a silver cup rewarded the lady or ladies who contributed this solace to all.

Spanish formed the first class, and here Mr. Davies maintained his position, taking the silver cup, followed by Capt. Hornby, who took both the other prizes. The acknowledged difficulty of getting a perfect pen of these birds was never more apparent than in this class. Mr. Botham had two perfect hens; but their consort was unworthy of them.

All the great names were in the *Dorking* class; and an old and successful exhibitor was first, the Rev. S. Donne. The same gentleman took the prize in the *Chicken* class, which, considering the season, and time of year, was a marvellous one. It was grievous to see birds of extraordinary merit obliged to be content with commendations.

Here, as at Anerley last year, there was a class for *Speckled Dorkings*, and Lady Eleanor Cathcart was distinguished; the two hens were, in our opinion, the heaviest in the Show.

We cannot give a better idea of the *White Dorking* class than by saying the successful names in order were Messrs. Antill, Coleridge, and Jennens.

The *Cochin-Chinas* were worthy of the best days of the class; and the three prize-pens were indeed noble birds. Mr. Gelderd had the cup, hard run by Mr. Punchard and Baron N. de Rothschild. Lord de Blaquiere swept the *Chicken* class. Mr. Adkins showed *Grouse* birds, which justify us in our predilection for them, and in our belief that they have more weight and symmetry than their Buff brethren.

The adult class of *Brahmas* was better than the chickens. Mr. Matthews was very successful in all the *Game* classes. He took the cup. There were many sales in these classes. The *Hamburgs* were well represented in every shade and variety. Mr. Archer, of Malvern, took the cup for the *Pencilled*; and Mr. Worrall, of Liverpool, for the *Spangled*.

Success is no novelty to these gentlemen in their respective classes.

There was a hard struggle for the *Poland* cup, which went to Mrs. C. E. Coleridge. There were two hens of surpassing beauty in pen 300, the property of Mr. Tweed; but they had a sorry partner. There was also an excellent pen of Black with white top-knots; they were disqualified, the black front, which is common to them all, having been shaved off. There were some excellent birds among the varieties, especially a pen of *Malays*, belonging to Mr. Leighton. Mr. Harvey Dalton Bayley earned the *Bantam* cup with a beautiful pen of Gold-faced Sebrights. It would be unjust not to give especial mention to Mr. Forrest's Duckwings; they were beautiful.

Mr. Davies showed very large *Geese*, which took the first prize. The *Ducks* were very good: Mr. Weston, in *Aylesburys*; Lord de Blaquiere, in *Rouens*; Miss Steele Perkins, in *Buenos Ayrean*; and Countess de Flahault, in *Call Ducks*, were first-prize takers.

Many other pens deserved separate notice, but our limits will not allow it; and we are obliged to refer our readers to the prize list as published last week.

The committee of the Windsor Show is so happily constituted, that the same praise is due to every member for their continual endeavours to minister to the well-doing of the birds, and the comfort of the visitors.

WINDSOR POULTRY SHOW.

THE 9th clause in the regulations for this Show is thus worded:—"All specimens must be at Windsor on Monday, June 2nd, by 10 P.M."

In compliance with this rule, I arranged, with some inconvenience to myself, that my birds should be at the Show before the appointed time, believing that no exceptions would be made, and it was with great surprise that I heard from my man, who was on the spot, that an exception had been made in favour of Mr. Davies, and some few others residing in the neighbourhood, whose birds were not taken to the Show till ten o'clock on the morning of Tuesday, June 3rd, immediately before the Judges entered on their duties.

Without waiting to know the result, I instantly sent the enclosed protest to the Secretary; and for the benefit of all future exhibitors I forward the answer I received, which, I submit, is the weakest defence of a bad cause I ever read.

I do not agree with Mr. Chamberlain, that the committee have "*an unlimited discretion*." I contend that they are as much bound to abide by the rules they publish as the exhibitors have to be guided by them; and that these last send their birds sometimes from a great distance, trusting to the honour of the committee that the rules *will* be strictly adhered to, and that favour and affection will not be shown to friends and neighbours.

Mr. Chamberlain takes advantage of my having used the words, "into the Show," instead of "*at Windsor*;" but even here his ground fails him, for the "*favoured few*" were not "*at Windsor*" on Monday night at 10 P.M.; they were kept at their own walks, and I leave any judge to see the advantage birds just put in their pens from their own home, on Tuesday morning, will have over those who have been penned (*like mine*) since Sunday evening.

Birds on the spot *must* always have an advantage over those coming from a distance; but why make this advantage still greater by such (I *must* call it) unfair play?

If it was "for the convenience of the committee" to have some birds sent on the morning of Tuesday, "when the unpackers would be more at liberty," I think if any indulgence (I should deprecate *any* to anybody) *was* to be allowed, it ought to have been to those coming from a distance. In this case, my poultry might have left home on the evening of Monday, and would have been at Windsor in ample time on Tuesday morning.

I have no personal feeling in this matter. I am bound to record the general courtesy and kindness of the committee, the care and attention bestowed on the birds, which were beyond all praise, and in consequence of which my poultry, having returned home, seem scarcely to have *felt* the Show. But there were many who, like myself, complained loudly of

the same thing, and who urged me to publish it; and as I believe that Poultry Shows must look for their great support to the confidence reposed by exhibitors in the perfect impartiality of the committee, I can venture to state my complaint, in the hope that we shall not again hear of a committee exercising what they call an *unlimited* (and which I considered a most improper) discretion. — WINDHAM HORNEY, *Knowsley*, June 7th, 1856.

The following are the protest and the answer referred to in the preceding communication:—

"GENTLEMEN,

"June 3rd, 1856.

"It is stated as one of the rules of the committee of the Windsor Poultry Show, 'that no birds will be admitted into the Show after ten o'clock on the night of Monday, June 2nd.'

"I am informed that Mr. Davies's pens were not brought into the Show until ten minutes to ten on the morning of June 3rd.

"If this is so, it is plainly very unfair to those who, like myself, were forced to adhere to the rules of the Show, and to bring their poultry from a distance; and I now beg to protest against any birds who were not in the Show at the proper hour being allowed to compete for the prizes. I have to request you will lay this, my complaint, before the committee, and that they will cause an inquiry to be made into the case.

"I remain, Gentlemen,

"Your obedient servant,

"To the Secretaries of "W. W. HORNEY, Capt., R.N.

"The Windsor Poultry Show."

"WINDSOR POULTRY EXHIBITION,

"COMMITTEE ROOM,

"4th June, 1856.

"SIR,

"I have laid your protest before the committee, and in consideration of your undertaking to take no further steps in the matter, other than by publishing this correspondence, the committee have instructed me to give the following answer to your letter:—

"You are wrong in your quotation of Rule 9, to which I beg to refer you. The committee, in wording that rule, merely had in mind the difficulty of getting birds sent off by the mail train the night before the Show in time for the Judges' decision.

"The committee consider that they have an unlimited discretion in carrying out the details of the Show; and in receiving birds on the morning of the Tuesday, the committee consulted their own convenience, and even requested people residing in the neighbourhood to send their birds on Tuesday morning, when the unpackers would be more at liberty than they would be during the influx of birds the previous evening.

"The committee do not consider that there was any unfairness in such proceeding, and must, therefore, decline to interfere with the award of the Judges.

"Trusting that you will feel satisfied with this explanation,

"I am, Sir, yours very respectfully,

"THOS. CHAMBERLAIN,

"Capt. Hornby, R.N., &c."

"Hon. Sec.

[There can be no doubt that the committee of the Windsor Poultry Show committed an error; and if the committee claim to "have an unlimited discretion in carrying out the details of the Show," in defiance of the rules published by themselves, by which they pledge themselves that Show shall be regulated, they claim a power which can never be admitted; for if admitted, then no exhibitor has a right to appeal against favouring relaxations of any rule, however flagrant. There can be no two opinions upon the equity of rules published by a committee being as binding upon themselves as upon the exhibitors, and if one rule is more binding than another upon a committee, it is that which equalizes the length of time the birds must be in the pens before they are submitted to the inspection of the Judges.]

IS ROUP CAUSED BY THE FOOD GIVEN?

THE Roup has shown itself to a great extent in this neighbourhood. I cannot say I have had one case, or anything more than cold, amongst my chickens; but, last year, I lost three parts of all the fowls I had. This year the mortality has been most trifling. I feed principally on oatmeal, made into a stiff paste with boiling water, and a little whole corn, principally barley. Last year, I fed principally on Indian meal and thirds made into thick porridge, and I lost the best of my young stock.

PARIS AGRICULTURAL SHOW.

THERE is one remarkable breed of foreign sheep, white-faced and long-woolled, from the polders of Holstein, which deserves special mention. The ewes every year produce four or five lambs each, and, as the pasture on which they feed is extremely rich, they rear the whole of their lambs without assistance. Besides this large crop of lambs, they yield from 18lb. to 20lb. of wool, and their flesh is said to be of good quality. This is probably the largest and most prolific race of sheep in the world.

The poultry department is the noisiest of the Show. A hundred cocks seems to be all crowing at each other, and some, from their husky voices, have evidently crowded themselves hoarse. But, despite the noise, the poultry exhibition deserves and receives a great deal of attention. No where can better poultry be met with at the table than in France, where, in one shape or another, it seems to form a moiety of all the meat consumed. This class, therefore, forms, most properly, a leading object of encouragement by the Emperor, who has assigned to it nearly 10,000*l.* in prizes. Mr. Baker, of Beaufort Street, Chelsea, takes several of the first prizes for white Cochins, brown Cochins, and Brahma Pootras. The Comtesse de Flahault takes also several first prizes. Mr. Robert Loder, of High Beeches, near Crawley, in Sussex, takes the first prize for Dorkings; and Mr. W. Atkinson, Warwick, the first prize for the best breed of Turkeys.—(*Times*.)

FOOD FOR RING DOVES AND TURTLE DOVES.

E. L. E. WOULD be very much obliged by some information with regard to the feeding of Ring Doves. She finds it very difficult (living in a town) to procure refuse wheat for them, and peas they will not eat; they are, therefore, chiefly fed on bread and hemp-seed; is the latter good for them? Also, will they eat rice? and what food and general method of treatment would be recommended for them?

[The Ring Dove (*Columba Palumbus*), or the large Wood Pigeon with a white ring round the neck, in its wild state feeds chiefly on the seeds of numerous weeds, which it finds scattered on the ground on the ploughed or stubble land; at seed-time and harvest it also gleans the scattered corn and pulse; in autumn it feeds on beech-mast and acorns; and in winter on berries, or, as a last resort, turnip-tops; in confinement, such food as buckwheat, peas, beans, and Indian corn, is best adapted for this Dove. Hemp-seed, if given in any quantity to it or to any other kind of Dove or Pigeon, is injurious.

As "E. L. E.'s" Doves will not eat peas, I suspect them to be the small cage Doves—the Collared Turtles, with the black collar or ring round the neck, such being sometimes incorrectly called Ring Doves.

The best food for the Collared Turtles is decidedly buckwheat, or bran, as it is sometimes called; an occasional change of wheat or Canary-seed is very good. Hemp-seed, rape-seed, and linseed are injurious if given in too large quantities. Barley, oats, and rye they do not much relish. Tares are little short of poison to them. Bread, boiled rice, and boiled Potatoes are very well as a change, but are not adapted for a general food.—B. P. BRENT.]

OUR LETTER BOX.

WINNSOR POULTRY SHOW (*A Visitor*).—We are much obliged by your "Rough Notes" on this Show; but our own reporter's notes were already in type when yours were received.

EXETER SHOW.—We are informed that the second prize for *Silver-pencilled Hamburgs* was gained by Mrs. T. H. Roper, of Eton, near Windsor, and not by Miss F. Patteson.

DORKING CHICKENS (*A Subscriber*).—During the first week no chickens appear more hardy; but during the next three weeks great mortality is apt to occur among them. Feed them on moderately-moistened barleymeal, mixed with a little egg boiled hard, and chopped fine. Keep the hen under a coop in a dry outhouse; but move it into the sunshine, and on to grass, if possible, every fine day. Give them abundance of green food—very finely-chopped lettuce and cabbage-leaves, and green onion-tops, and clean fresh water daily, with a few rusty nails in it. Feed them, at least, four times daily. We know of no fence so durable, or cheaper, for dividing poultry-yards, than galvanized iron wire. It should be six feet high for all the large varieties of fowls, except Cochins. For these, three or four feet are enough.

LONDON MARKETS.—JUNE 16TH.

COVENT GARDEN.

Market well supplied, and a fair amount of business doing, the prices of all *Hothouse Fruit* now receding; *Pines* and *Grapes* becoming very plentiful, and large consignments of *Cherries* are received daily from the South of France, with the usual description of *Vegetables*. Among home-grown, nothing particular to note. We have, this week, commenced good early *Peas* from 5*s.* to 10*s.* per sieve. *New Potatoes* are very plentiful.

FRUIT.

Apples, kitchen, per bushel.....	8 <i>s.</i> to 12 <i>s.</i>
" dessert	12 <i>s.</i> " 20 <i>s.</i>
Pears, per dozen	1 <i>s.</i> " 3 <i>s.</i>
Peaches, per doz.	15 <i>s.</i> " 30 <i>s.</i>
Nectarines, do.	15 <i>s.</i> " 30 <i>s.</i>
Pine-apples, per lb.	8 <i>s.</i> " 10 <i>s.</i>
Jersey Grapes, per lb.	3 <i>s.</i> " 8 <i>s.</i>
Hothouse ditto, ditto	4 <i>s.</i> " 12 <i>s.</i>
Strawberries, per oz.	3 <i>s.</i> " 8 <i>s.</i>
Foreign Melons, each	3 <i>s.</i> " 8 <i>s.</i>
French Cherries, per lb.	2 <i>s.</i> " 4 <i>s.</i>
Oranges, per 100	4 <i>s.</i> " 10 <i>s.</i>
Seville Oranges, do.	6 <i>s.</i> " 12 <i>s.</i>
Lemons 6 <i>s.</i> " 12 <i>s.</i>	
Almonds, per lb.	2 <i>s.</i> " — <i>s.</i>
Nuts, Filberts, per 100lbs.	50 <i>s.</i> " 60 <i>s.</i>
" Cohs, ditto ..	80 <i>s.</i> " 100 <i>s.</i>
" Barcelona, per bushel.....	20 <i>s.</i> " 22 <i>s.</i>
Nuts, Brazil, ditto..	12 <i>s.</i> " 14 <i>s.</i>
Walnuts, per 1000 ..	9 <i>s.</i> " 12 <i>s.</i>
Chestnuts, per bushel	15 <i>s.</i> " 24 <i>s.</i>

VEGETABLES.

Cabbages, per doz.	1 <i>s.</i> to 1 <i>s.</i> 6 <i>d.</i>
" Red, per doz.	2 <i>s.</i> to 4 <i>s.</i>
" Cauliflowers, each	9 <i>d.</i> " 1 <i>s.</i>
" Broccoli, per bdl.	3 <i>d.</i> " 6 <i>d.</i>
" Savoy's 1 <i>s.</i> " 2 <i>s.</i>	
" Greens, per doz. bunch.	4 <i>s.</i> " 6 <i>s.</i>
" Spinach, per sieve	— " 4 <i>s.</i>
" French Peas, per bshl.	6 <i>s.</i> " 10 <i>s.</i>
" French Beans, per 100	2 <i>s.</i> " 0 <i>s.</i>
" Carrots, per bunch ..	9 <i>d.</i> " 1 <i>s.</i>

Parsnips, per doz.	6 <i>d.</i> to 9 <i>d.</i>
Beet, per doz.	1 <i>s.</i> to 1 <i>s.</i> 6 <i>d.</i>
Potatoes, per cwt.	3 <i>s.</i> to 6 <i>s.</i>
" Frame, per lb.	6 <i>d.</i> " 0 <i>d.</i>
" New, per lb.	2 <i>d.</i> " 4 <i>d.</i>
Onions, Y'ng, per b'nch.	4 <i>d.</i> " 6 <i>d.</i>
" Old, per bushel	5 <i>s.</i> " 7 <i>s.</i>
Turnips, per bunch.	9 <i>d.</i> " 1 <i>s.</i>
Leeks, per bunch	2 <i>d.</i> " 3 <i>d.</i>
Garlic, per lb.	6 <i>d.</i> " 2 <i>d.</i>
Horsradish, per bundle 1 <i>s.</i> 6 <i>d.</i> to 2 <i>s.</i> 6 <i>d.</i>	
Shallots, per lb.	6 <i>d.</i> to 1 <i>s.</i>
Lettuce, Cos, each	6 <i>d.</i> " 8 <i>d.</i>
" Cabbage per doz.	2 <i>d.</i> " 3 <i>d.</i>
Endive, per score .. 1 <i>s.</i> 6 <i>d.</i> " 2 <i>s.</i>	
Celery, per bunch.	9 <i>d.</i> to 1 <i>s.</i> 6 <i>d.</i>
Radishes, Turnip, per dozen bunches	— to 6 <i>d.</i>
Water Cresses, ditto ..	6 <i>d.</i> " 9 <i>d.</i>
Small Salad, per punnet.....	2 <i>d.</i> " 3 <i>d.</i>
Artichokes, per lb.	— " 2 <i>d.</i>
Asparagus, per bdl.	2 <i>s.</i> " 5 <i>s.</i>
Sea-kale, per punnet ..	— " —
Rhubarb, per bundle	3 <i>d.</i> " 6 <i>d.</i>
Cucumbers, each.	3 <i>d.</i> " 1 <i>s.</i>
Mushrooms, per pot 1 <i>s.</i> 6 <i>d.</i> " 2 <i>s.</i>	

HERBS.


Basil, per bunch	4 <i>d.</i> to 6 <i>d.</i>
Marjoram, per bunch	4 <i>d.</i> " 6 <i>d.</i>
Fennel, per bunch ..	2 <i>d.</i> " 3 <i>d.</i>
Savory, per bunch ..	2 <i>d.</i> " 3 <i>d.</i>
Thyme, per bunch ..	2 <i>d.</i> " 3 <i>d.</i>
Parsley, per bunch ..	2 <i>d.</i> " 3 <i>d.</i>
Mint, per bunch	2 <i>d.</i> " 4 <i>d.</i>
Green Mint 6 <i>d.</i> " 8 <i>d.</i>	

POULTRY.

There is still a good supply of all sorts of Poultry, and rather more than the usual demand.

Large Fowls. 9 <i>s.</i> 0 <i>d.</i> to 10 <i>s.</i> each.	Quails 2 <i>s.</i> 3 <i>d.</i> to 2 <i>s.</i> 6 <i>d.</i> each.
Smaller do. 4 <i>s.</i> 0 <i>d.</i> to 5 <i>s.</i> 6 <i>d.</i> " "	Leverets .. 4 <i>s.</i> 6 <i>d.</i> to 6 <i>s.</i> 0 <i>d.</i> " "
Chickens 2 <i>s.</i> 9 <i>d.</i> to 4 <i>s.</i> 0 <i>d.</i> " "	Pigeons 9 <i>d.</i> to 0 <i>s.</i> 10 <i>d.</i> " "
Goslings 6 <i>s.</i> to 6 <i>s.</i> 6 <i>d.</i> " "	Rabbits 1 <i>s.</i> 6 <i>d.</i> to 1 <i>s.</i> 7 <i>d.</i> " "
Ducklings 3 <i>s.</i> 3 <i>d.</i> to 4 <i>s.</i> 0 <i>d.</i> " "	Wild Ditto .. 10 <i>d.</i> to 1 <i>s.</i> 0 <i>d.</i> " "
Guinea Fowl 0 <i>s.</i> 0 <i>d.</i> to 0 <i>s.</i> 0 <i>d.</i> " "	Dottrell 0 <i>s.</i> 0 <i>d.</i> to 0 <i>s.</i> 0 <i>d.</i> " "
Plover's Eggs, in bulk.....	0 <i>s.</i> to 0 <i>s.</i> 0 <i>d.</i>

WEEKLY CALENDAR.

D M	D W	JUNE 24—30, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
24	TU	MIDS. DAY. NATIV. JN. BAPT.	30.178—30.108	71—43	N.W.	—	45 a 3	19 a 8	11 59	22	2 7	176
25	W	Anobium panicum.	30.168—30.143	68—52	S.W.	—	46	19	morn.		2 19	177
26	TH	Anobium molle.	30.201—30.224	77—56	N.W.	—	46	19	0 11	24	2 32	178
27	F	Anobium plinoides.	30.357—30.224	81—45	S.W.	—	47	19	0 24	25	2 44	179
28	S	QUEEN VICTORIA COR. 1838.	30.274—30.204	79—53	E.	—	47	19	0 40	26	2 57	180
29	SUN	6 SUNDAY AFTER TRINITY.	30.072—29.874	79—61	S.E.	—	48	19	1 1	27	3 9	181
30	M	[ST. PETER.	30.027—30 928	76—52	S.W.	—	48	18	1 29	28	3 21	182

METEOLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 72.6°, and 50.5°, respectively. The greatest heat, 93°, occurred on the 27th, in 1826; and the lowest cold, 35° on the 30th, in 1849. During the period 109 days were fine, and on 87 rain fell.

THE CRYSTAL PALACE.—JUNE 18TH.

It was a significant sign of the times for Her Majesty the Queen to have fixed on the Waterloo-day for the "opening of the great fountains and the entire system of water-works" at the Crystal Palace. That "system"—the Paxtonian system of water-works—is even more original in its grand simplicity, and more widely different from the systems in France and Italy, and from all others of which we have accounts from the days of Solomon, than the Crystal Palace itself is from the works of the great geni of architecture. And yet there is one little fountain in England, which, above all other fountains and "systems" of fountains, attracts the attention of the beautiful, the good, the great, and the wise in this country, and that fountain is the "fountain of honour" in these realms, Queen Victoria. Instead of drawing down electricity from the clouds, as Franklin did, you might draw down the clouds themselves, and show, before the Queen, how and whence the "roar of thunder" and the "flash of lightning" originate, without arresting the attention of the multitudes from that little fountain.

The fountains on the terrace and in the central basin were playing decimally, at one-tenth of their power, the whole day, until Her Majesty and suite arrived in three open carriages and four, with outriders, about a quarter past five o'clock, when more than 20,000 persons were dotted, grouped, or clustered together like bees in different parts of the grounds, and were worked up to the highest pitch of enthusiasm ready to receive Her Majesty.

The day was a regular Queen's day throughout; but an ominous black cloud rose in the west just as the Queen left London, and threatened awfully for a short time; but just then the wind freshened up to a gentle breeze, as if on purpose to make a regular Scotch mist, and something more, to leeward of the jets and fountains, and dispersed the black clouds as fast as they reached the zenith of Sydenham.

The royal standard was now hoisted on the flag-staff on the summit of the "Rose Mount." The band struck up on the south shore of the lower lakes, and Her Majesty was seen traversing the upper parts of the garden from east to west. The signal for the turn-cocks was now given, and the hissing jets, to the number of nearly 12,000, began slowly to pour out the water in different shapes, sizes, and directions. Sir Joseph Paxton might be seen, mounted on a spirited little brown charger, accompanying the royal cortège round the bottom of the Rose Mount, and across the broad waters of the southern lake. When they reached opposite the grand jet in the centre of this lake they halted for awhile, admiring the grand display amidst deafening cheers, which were all but drowned by the noise of the fountains. The scenes of the day were now at their highest pitch; the whole south sides of the lakes were literally swarming with life, music, and shot silk; but it soon became manifest that the gentle zephyr was not propitiated for the occasion: she added power to her

faus, which drove the sparkling element across the lake, and on and over ten thousand dresses in an instant. The band took to their heels across the lawn, leaving their music-stools in torrents; the dresses were pulled up over the shoulders and little bonnets as by magic; and, for awhile, we seemed to be under a flying petticoat-government around the circuit of the lakes. A lady, who stood just before my face, and whom I took for the Princess of Baden, exclaimed, as she flew up the bank, "Oh, good gracious alive! see what a pickle my dress is in already!" But it is a bad wind which does not blow good for somebody. The "trade" will have to make good sundry broken Rhododendrons and other shrubs, and those who could "stand it" were in sole possession of the most favourable part of the road for seeing the Queen, who sat in the first carriage with the Prince of Baden on her left, and the Prince of Prussia sat on the left of Prince Albert, with their backs to the horses.

The Queen was all life and looks, as usual. Prince Albert looked well-pleased, but not the least excited; and it was wonderful how steady and serious the young Prince of Prussia carried himself amidst such roar and enthusiasm; but I overheard some ladies say, that was very becoming just now, and that it was a good sign to see a young man look so just before he "popped the question." At all events, the two German princes had thus seen that the British crown is quite safe, and the wearer of it is happy-looking amidst 20,000 subjects, without a sword or bayonet in sight; and having seen that, let us hope they will remember it if ever they receive an earthly crown themselves. After the "tour of the lakes" we lost sight of the royal suite, and it was curious to see how soon the multitude began to forget the realities of a Scotch mist, the presence of an English Sovereign, and the triumphs of practical science, betaking themselves across the ridges, or along the bottom valley, to see and consider things and periods beyond the flood. The triumphs were most complete and most satisfactory, but the wind got up just in time to mar the full effects intended by the water-temple, cascades, and waterfalls. It thus seems there must be a clear calm day to see the glassy films in tinted shades come down the domed temples, the rush and foam of cataracts along the cascades, and the Niagara of the waterfalls. But the new Paxtonian system of water-works, without the accessories of architecture and sculpture, was perfection itself to the last drop.

D. BEATON.

NEW WHITE GRAPE.—Mr. Carpenter, the gardener at Barr Hall, near Birmingham, has sent Mr. Beaton a bunch of a White seedling Grape, which he raised from the Black Hamburgh. It is a distinct Grape, much flattened at the eye, and is of a clear amber colour, with flavour as rich as that of the Black Hamburgh. Mr. Beaton thinks the pollen of the Sweet-water Grape produced this seedling, and that it is well worth growing.

BEDDING-PLANTS.

IF Mr. Robson had heard of a long row of pure white flowers on which I prided myself for the last six weeks, he would come out of his way to see it. I never saw a more bedding-like row than that. It is of *Silene pendula alba*, sown last August, and was four times transplanted, not on purpose, or for experiment, but from necessity, owing to some improvements I was making; but the frequent transplanting has opened my eyes as to how this and the red or pink *Pendula* should be treated. Cobbett used to say that people mistook his geese for swans, and some knowing people mistook both my *Silenes* for new bedders, as they merely trailed, and the flowers looked just as if they had sprung out of the earth without stems or leaves; but a stout countryman, who called one day, exclaimed, "What on earth do you grow them there Ragged Robins for, man alive? our hedges be full of them." No, no, master; you never saw that kind of flower till this day. I know what you mean well enough; but your Robins will be out of bloom by the time you get home. These are not Ragged Robins, they are new Robins, and will be in bloom, if I am spared, when you will be at your harvest home; and that is more than ever could be done with such Robins as yours, and more, too, than half the world was aware of when peace was proclaimed in Paris. "Perhaps you will doctor them," says he. "Perhaps I will," says I; for what else could I say to a man who never heard of such a book as THE COTTAGE GARDENER? But conversing with a man of no books is just as likely to teach as arguing with a professor; at all events, the means I took to shut that man's mouth will be welcome news to a large portion of my readers. *Silene pendula* and white *Pendula* may be kept in bloom for ever so long after their natural time. I began with the pink *Pendula* in 1841 at Shrubland Park, where sixteen beds of Heliotropes, each requiring ten yards of edging, were lined with this one plant, which was kept in bloom till the frost killed the Heliotropes in the "Fountain Garden," and for the next eight years the edging was *Silene pendula*; but we sowed the seeds always in the second week in April, and clipped both sides and the top of the edgings, at least, once in three weeks all through the summer and autumn. They might be about a foot high and nine inches thick, and as full of pink blossoms all round as ever was seen. One cause why so slender a plant made a stiff edge was, that the Heliotrope pushed shoots through it all round, and continued to do so the whole time; and, as soon as the ends of these shoots got to the outside of the edge, it was instantly "stopped" square with the outside face of the hedge or edging, and so formed a support for holding the edge upright. At that time we did not let everybody know the secret of how these edgings were kept upright so much better than others in other gardens round there. The shrubberies were full of it every season from self-sown seeds, and rows of plants were planted round the borders every spring from the last summer's crop. These would flower in May and June, as they do now, and when once flowered they were done with. But the summer of 1846 was superlatively hot and dry in Suffolk, and there are some parts of that county where it never rains till it pours in other parts of the county along the coast. One of those parts is Shrubland and thereabouts, and that season of 1846 no man who was there will ever forget. Things went wrong, of course; seedlings most so; and the *Silene pendula* most of all. Sixteen beds of ten yards each, with not a hundred plants to edge the whole with, made us turn our attention to the shrubberies for the last autumn's self-sown plants. We found enough of them, and we never had better edgings of them than that year; but the work to keep them on their legs was tremendous,

only "people did not know it." Boys were round them, morning, noon, and night, watching for every pod of seeds, and picked it off as soon as set.

Now, my "Robins," or white *Pendulas*, are not for edgings, or for a continuous row, although near enough, plant from plant, to look so; and the way I mean, indeed, the way I am doing with them, is this:—I let them all bloom for one month, then I cut back every other plant to the bottom of the lowest seed-pod on each shoot, and when the flower-buds from the next growth are just white enough to mark the plant, I cut down the next half of the plants, and by that means I expect, Suffolk-like, to have "White Robins," as the man called them, all through the season. Even should I fail, I know the thing may be done sure enough.

I have just seen a large bed and some borders filled with a third form of *Silene pendula*, an intermediate flower between the white and the pink, a more than French white shade. The seeds were bought in London for the white variety, therefore the new shade must be extensively grown this season, and I write purposely to advise some seeds of it to be saved where the plants are not grown in company with the pink variety. We shall thus have three rows of it, or the three shades in one bed; and it strikes me that the new shade between the pure white and true pink will be as pretty a thing as one could plant next spring. They seemed to despise the new shade where I had seen it, and others may do so likewise, and root up their plants without saving seeds; but here, I think, I shall be able to have seeds saved, and if so, I shall have the three in equal proportions in the experimental garden next season. It is a more valuable help in the neighbourhood of London, where early flower-beds are in demand, than most country gardeners are aware of; but they do not manage it well up here. The seeds are not sown early enough in the autumn, and the plants are put into the beds six weeks too soon in the spring, and the consequence is, the plants grow too high and too weed-like. You should see my rows of it to understand how Cobbett's geese could be mistaken for swans. I would sow my seeds of it for next year to-morrow if they were ripe. I would remove the seedlings to another bed early next September, and again, when the plants are housed, in October. I would transplant them largely round the edges of the beds in February. I would take up every one of them the third time, and put them in by the heels anywhere out of the way, and I would not transplant them in their blooming quarters till the second week in April, when I would plant them from six to nine inches apart, according to the sizes; and if you will follow my rule, which I proved over and over again to be the very best way, you shall have such "Round Robins" in shades next year as you never saw the like of before within miles and miles of London, and you would never like to be without them again.

SOWING CROCUSES.

If the "Doctor's Boy" will now look over his new Crocuses he will find every "root" of *Sir Walter Scott* in seed, and the seed-pods are well up above the earth, if not split, and the seeds quite ripe. The bees may have crossed them with the pollen of the large blue or large yellow kinds, or with the delicate pure white *Queen Victoria*, and if so, he will have many new varieties. If not, *Sir Walter* is so very good that he cannot have too much of it, and more especially as the doctor himself is such a kind man to his neighbours; he will be pleased to have some good Crocuses to spare for such of them as are fond of flowers. The way to manage them is this:—Gather the pods as they are, and put them in an empty flower-pot, with a piece of slate or glass over, to keep the mice from them. Keep the pot in the dry till near the end of September, then out with

it, and rub the seeds out of the pods, and sow them in *shallow drills* across a bed or border; the drills to be six inches apart, and the seeds as thickly as Sweet Peas. Put down a stick at each end of the rows to mark them, so that the ground is not turned over or hoed in a mistake, then run a little soot along the surface over each row, which is a sure way to deceive the mice a second time; they are wonderfully fond of Crocus seeds. Repeat the soot three or four times after rain, and in the spring the seedlings will push up just like barley or wheat, and for the rest the "Doctor's Boy" is the best man for telling all about them.

D. BEATON.

POTATO MURRAIN.—We are informed upon most reliable authority, that this disease is very prevalent in the western parts of Cornwall; a locality, of which the climate seems pre-eminently promotive of this disorganization of the Potato.

GARDENS NEAR PERTH—NEW GARDENS AT LORD PANMURE'S.

SEVERAL desires have been expressed that I would notice some of the best gardens in Perthshire, or, at least, mention some that might be easily visited by those who, in quest of health and pleasure, sojourned for a time in the fair city, or in the neighbourhood of the celebrated walls of Pitkeathly. The former of these requests I am unable to gratify; the latter I will endeavour to meet by specifying a few of the most prominent gardens within an easy distance of Perth, knowing that, at such places, intelligence of others will be easily gained.

Moncrieffe House is two or three miles from Perth, near the bridge of Earn, placed at the base of the picturesque hill of Moncrieffe, and celebrated long ago for its good gardening and the many efforts that were made in acclimatising tender plants. From the top of the hill of Moncrieffe one of the finest views imaginable may be seen northward over Perth, and on to the base of the Grampians; eastward along the garden of Scotland, the Carse of Gowrie, with the silver Tay threading its way on to Dundee; and westward along the fertile, rich lands of Strathearn. In the same neighbourhood, and near the celebrated wells, are Kilgraston and Condie, both well known for their gardens.

Farther up the Earn, at the distance of three and four miles respectively, are what used to be two rival gardens, Dupplin, the beautiful residence of the Earl of Kinnoul, and Invermay, the still more picturesque residence of — Belshes, Esq. The Earn, though on a small scale, as celebrated for its windings as the Forth or the Rhine, passes between them, and so does the Scottish Central Railway. The gardens of Dupplin, with their forcing-houses, are seen extended on the face of the hill. The nearest station to it, I presume, would be Forgandenny, and the nearest to Invermay would be Forteviot. The lover of a fine view, however, should eschew steam and carriage, and leave Perth early on a summer's morning by the town mail to Dupplin, mounted on *shanks nagie* (his own legs); and looking back, when he gains the brow of the hill, over Perth and on to the hill above Kinnoul cultivated to its summit, he will observe a scene that travellers have told me even the Rhine could not equal. The birches of Invermay have been celebrated in song; the approach winds through steep ascents to the mansion, and though the waters of the Tay are not often seen, their sound is heard as they pour down many a bustling cascade. The horticultural fame of both establishments is as great as when presided over by Messrs. Shillinglaw and Muirhead.

Passing others, I would fix attention on *Drummond Castle*, near Crieff, which I regret not visiting, and chiefly because I did not know, until too late, that the branch line from Auchterarder station was finished to Crieff, more especially because, in addition to good general gardening, I have often been assured, that in flower-gardening it divides the honours with Drumlanrig. It is now many years since I saw it. The size of the park, its lakes, its herds of deer, the ascent to the castle, all betoken magnificence, reaching a climax when, from its front, perched on a rock, you look down on a large amphitheatre filled with flowers, evergreens, vases, and statues. It was then a fairy-land to dream about, and I am told that it is still more attractive and beautiful now, having so long received the improving touches of the present gardener, Mr. McDonald. In the same neighbourhood, the gardens and woods of Abercairney, and the gardens, woods, and beautiful scenery of Ochertyre, will well repay examination.

On the high road from Crieff to Perth, and seven miles from the latter, are the gardens and woods of *Methven Castle*, still retaining the traces of a bishop. A way through many a picturesque glade may thence be obtained to Lyndock, the much-loved seat of the late hero of Barossa, and equally famed for the remains of the house built on "yon burn brae" by "Bessie Bell and Mary Gray," and the grave in which the two beauties were laid after being cut down by the plague, over which many a pair of romantic lovers have shed the tear of sympathy, and found that there was, in the sombre shade of the place, a more than mesmeric power for drawing hearts closer to each other. If an antiquarian, the wayfarer may visit the village of Redgorton (red gore town), and the fields of Lunarty, the scene of the final conflict between the Danes and Scots, and, crossing in the Tay ferry-boat, see the remains of the house of the progenitor of all the "Hays," who, along with his sons, taking their ox-goads from their ploughs and fording the river, did so much to animate the exhausted Scots, and retrieve the waning fortunes of the day.

The Dundee, Perth, and Arbroath line takes you right through the Carse of Gowrie. Perth Nursery is well worthy of a lengthened visit, as Mr. Beaton can tell you. A short distance from Perth, *Kinfauns Castle* is delightfully situated, in a gorgo between two hills; on one side the romantic hill of Kinnoul, rearing its almost perpendicular front, a second edition of Craig-y-barns, above Dunkeld; while, on the other side, you have, in the Tay and the rich scenery, a miniature resemblance of the vale of the Thames as seen at Richmond. There, and at Pitfour, Ballindean, Balbirnie, and Rossie Priory, horticulture is progressing in unison with the times. The latter place has a fine appearance from the railway; and there Mr. Kidd, the intelligent gardener, is as earnest and enthusiastic on novelties and improvements as he was a quarter of a century ago.

Time being limited, I denied myself the pleasure of seeing these and other places once more; and only visited, on that side of the Frith of Tay, *the new Gardens at Lord Panmure's*, the whole being planned and carried out under the auspices of Mr. McIntosh, late of Dalkeith, and the well-known author of the "Book of the Garden." During the short time I had been in Scotland, I heard various accounts of the new houses there, and felt very anxious to see and judge for myself; and my impression is, that the range of houses is distinguished alike for novelty and uniqueness, in a plan combining utility with elegance. I regret very much that I could not call on Mr. McIntosh, and obtain his permission to give a more full outline of details than otherwise I should feel warranted to do. I may safely say as much as will place the distinguishing characteristics before our readers, and lead intending builders on a large scale to consult for themselves in the proper quarter.

The house, or castle (for I forget even the name of this demesne of his Lordship), is placed on rising ground, commanding a fine sweep of the sea, and is about three miles from Carnoustie, a fashionable watering place, and the third station from Dundee, on the Dundee and Arbroath line. The house has been undergoing a process of improvements and additions; and there has been a great extent of ground-work, levelling, making new approaches, &c., under the superintendence of our old friend Mr. France—works that young gardeners can never see too much of. The kitchen-garden is considerably nearer Carnoustie than the mansion. It struck me that it would be found rather small for a large establishment; but in many places some vegetables, such as roots of the various kinds, are considered better when grown in a field. The first thing that struck me, rather accustomed of late to brick walls, was the massive character of the buildings on the north wall (all built of stone), and the apparent comfort and finish of the sheds and rooms placed there behind the houses. The using of stone, squared and roughly hewn, for all the walls of the houses, gives to them a degree of massiveness and solidity which our brick walls never seemingly command, even when cased with cement, to resemble the real Simon Pure.

Standing at the back of these sheds, and with the knowledge that there are houses on the south side of them, you are not likely to form any idea that the range of houses will be much different in design from the lean-to's, that would have been deemed a *chef-d'œuvre* in the days of the accomplished Nicol. As soon, therefore, as you enter by one of the passages, you are struck with the distinguishing feature of the arrangement. You enter, not one of the houses, but an elegant corridor, that connects all the houses together; and these all standing separate and span-roofed. The corridor is some 250 feet in length, and six feet in width; paved with stone, with the exception of a narrow border at the back for creepers, &c. The height of the opaque back wall is about nine feet; the glass division in front is the same height, resting on a stone wall, about two-and-a-half feet high, the same height as the walls of the other houses. From the opaque wall at the back, and the glass division in front, there is a hipped roof, rising two feet more over to the centre. Flat arches connect at intervals the back and front together, and creepers had already got over these in places. The back wall was getting rapidly covered; and, among other things, there was a nice plant of *Cantua dependens* in bloom.

The stone plinth supporting the glass front was turned into a shelf for fine specimens of *Cinerarias* and *Calceolarias* in bloom. The effect, when looking along, was very striking. The corridor terminates at the west end in a greenhouse, and in the east end in what is intended for a plant-stove. There are seven other houses, with a door leading into each from the corridor. The south, or upright glass front of the corridor, constitutes, in fact, the north end of these seven houses. Between each two of these span-roofed houses there is an open space of twelve feet. The two end ones are the longest, some fifty feet in length, and some twenty-two or more feet in width. The middle house is about two feet wider, and as much longer, than the other six, which are thirty feet by twenty. Any young gardener may at once see the simplicity and elegance of the whole design, if he will take the trouble, with a scale and square, to place the position of the houses and corridor on a piece of paper; and I feel convinced, that if Mr. McIntosh hears of it, he will feel gratified rather than otherwise. Thus, supposing the length of the space occupied by this cluster of span-roofed houses to be 282 feet, draw a line of that length, which will give you the northern boundary. On each end set off a space twenty-two feet wide, and carry it out as a parallelogram for fifty feet in

length to the south. These parallelograms will be the ground occupied by your two end houses. Then between those two end houses draw a line all the way along, six feet in width from, and parallel to, the first line, and you will have the corridor. Leave an open space next to the end house in front of the corridor of twelve feet; and then set off another space twenty feet wide, and thirty feet long to the south, and you have the ground space for one of the common houses. Proceed in the same way, and you will have an open space of twelve feet, and a width of twenty feet for a house alternately, except that the centre one is a little wider, giving you nine houses in all, standing north and south, sides and roofs facing east and west, each divided from its neighbour by a twelve feet open space, and all connected by the corridor.

As the highest point of these houses at the ridge will only be fourteen or fifteen feet, the twelve feet open spaces between every house and its neighbour are found quite sufficient to prevent one shading the other. It is hardly possible to obtain more light were each of these span-roofed houses placed separately at a distance from any other. The sides seemed to me, in the end houses, to be between eight and nine feet in height, and in the others from seven to eight feet; and the south ends were all glass, with the exception of the basement wall, which was stone all round, and the north end had the glass division of the corridor. The whole of the side, end, and roof glass was in large squares, and fixed, a matter of no little moment as respects future economy. The hipped roof does not meet in the middle, but an open space of about eighteen inches is left, and on this a sort of lantern-ridge, about eighteen inches deep, is placed all along the ridge; and in its sides ventilators are placed, which are opened and shut, and air regulated to a nicety, by a wheel and ratchet. Bottom-air is given by ventilators in the side stone walls; and these in each house can all be regulated at once by touching a lever. Though the day was very bright, there was no necessity for using anything like all the air-giving power.

The whole site of these houses had been well drained before commencing operations, and I understood the borders were likewise provided with air-drains. The side-walls are built on arches, and the Vines and Peaches being planted inside, the roots have also free access to range in the twelve feet wide open spaces between the houses. Some Vines had been planted in soil abounding in wireworm, and had to be replaced; but the replaced ones and all the others were growing vigorously. The casualty had nothing to do with the construction of the houses.

The nine houses are heated by three boilers, and there is an open chamber beneath the pavement in the corridor, through which the pipes pass before entering the respective houses, thus heating the corridor sufficiently; and, so far as I recollect the description of Mr. Mitchell, the intelligent young gardener, there were also channels for conveying the heat from this chamber underneath the soil in the houses. In each of these houses there were only two pipes round, which Mr. Mitchell had proved to be quite enough in very severe weather. In another part were pits, and low, narrow houses, for growing Cucumbers and Melons; and nothing could be answering better. In the two end houses of the nine there was a stage or a bed in the centre, and a walk all round. In the other houses there was only one walk down the centre, with two arches at equal distances over it, with ribs radiating, to brace the roof.

I will now mention a few ideas that struck me.

1. I am quite convinced such houses will answer admirably for general and late forcing. A great point will be gained if they be found as efficient for very early work as houses facing the south. Planting inside and depending mostly on the inside border will be everything in their favour.

2. I have no doubt the heating is ample for having Grapes in August. I should be agreeably disappointed if the pipes would suffice for Grapes in May. Scottish noblemen do not, in general, require these things early; and if they did, it would be easy, in the present case, to add more piping if wanted.

3. From the great surface of glass in these houses, and the dryness of the air in bright days frequently in spring, I should have liked to have seen some new and superior means for moistening the atmosphere. In the greenhouse this was so far done by keeping moss in a damp stato beneath the stage, and in the houses by keeping the pathways and borders gently sprinkled; but there were no evaporating pans on the pipes. Of course, if deemed desirable, they could easily be added.

4. The seven houses for Peaches and Vines respectively were destitute of anything like furnishing so as to accommodate other things; there were not so much as a shelf in them. Mr. Mitchell had some splendid rows of pots of Strawberries along the sides of the houses, but they stood on the top of the low wall that supported the building. Most gardeners would consider themselves fortunate, now-a-days, if they could keep every house to one definite purpose, though all would agree in the propriety of it if practicable.

5. The Vines are trained up near the sides of the houses, and to go over the roof. The Peacheries have no trellises nor means of support. They are planted out in the beds as dwarfs and standards, and intended to be grown in the bush or tree form. The trees looked nice and healthy. I have succeeded very well with standard Peaches before I was too covetous in shading them over-much with Vines. There is no shade but what they give each other here. Although I have no doubt the mode will answer, yet good Peaches are so heavy as to require some support even on standards, or their weight will bring them close together so as to prevent their full exposure to sunshine. Knowing how well they do in such span-roofed houses trained up each side about fifteen or more inches from the glass, I should not have been inclined to have all the Peach-houses planted in the standard mode.

If there are a few matters that jostle our preconceived notions, and, I may safely say, prejudices or inexperience, there can be no question that the work, as a whole, is a great honour to the designer, combining, as it does, novelty and elegance in arrangement, with convenience, fitness, and adaptation to the purposes contemplated.

R. FISH.

FLORISTS' FLOWERS.

THE HOLLYHOCK.

IN no class of florists' flowers has there been more improvement than in the Hollyhock. Instead of the extravagantly tall, single-flowered varieties, such as were grown when I was a youth, we have them now with close spikes of beautifully-formed, compact, double flowers, averaging from four to six feet high, with clear colours ranging from pure white to nearly black, and lasting, as all double flowers do, much longer than single ones. There is, however, the common drawback to all high-bred flowers, that they are less hardy than the old rough varieties, requiring more protection during the wet, damp weather in winter, or very severe frosts. Plants transplanted into the open ground in autumn are very liable to damp off during the winter, more especially if the soil be of a stiff, wet, and, consequently, cold description. As the best kinds are valuable, it is a better plan to take them up and prune in the long, rambling roots, and put them into as small pots as the roots can be got into. Any light, sandy soil will serve to pot them with. After they are potted, place them in

a cold frame or pit, giving abundance of air in wet weather, and on fine, sunny days draw off the lights entirely; keep them dry rather than otherwise, and remove, as they occur, all decaying leaves. Indeed, at the time of potting, it will be advisable to cut clean off at the large leaves. Another advantage of adopting this protective measure is, that the ground may be well manured with stable or cow-dung, and trenched deep during winter, laying it up in ridges to mellow and pulverize with the frost. By following these cultural hints, the rows will be full of equal-sized, good plants the following autumn, all flowering well, and equal in beauty.

Those amateurs, or others, who wish to have good blooming plants next year, would act wisely to order the sorts now, desiring them to be sent as soon as possible. On receiving them, repot them into larger pots, and nip off all flower-stems should any appear; then, in autumn, place them in a cold frame, or, if that convenience cannot be had, then plunge the pots in a raised bed of coal-ashes in a sheltered part of the garden, and protect with hoops and oiled, strong canvass: the grand object is to keep them from heavy showers of rain or snow more than from frost. It is water frozen on or in the hearts of the plants that does the mischief, causing them to rot off close to the stem. In dry, gravelly soil very strong plants will live through winter if slightly protected with fern, or dry straw twisted round some short, stout sticks. Hollyhocks are propagated by young stems divided into short lengths; also by short shoots slipped off the main plant. The cuttings should be inserted in sand round the edge of a six-inch pot, and placed in a gentle heat. The earlier in the year this propagation is performed, the stronger the plants will be, and more certain to flower the following season. The prices I mention are such as florists charge now. In the autumn they will be lower.

TWELVE SELECTED NEW VARIETIES.

1. *Beauty of Cheshunt* (Paul).—Light rosy-red. A large flower, dense spike, and free grower.
2. *Criterion* (Bircham).—A large, light flower, purple at the base, and thickly spotted, the centre full, guard leaves broad and round. A good distinct variety.
3. *Emily* (Roake).—Transparent blush, smooth, full, and beautiful.
4. *Empress* (Bircham).—Delicate primrose. A beautiful and well-formed variety.
5. *Eugenie* (Chater).—Saffron, delicately shaded, full, and fine.
6. *Eva* (Roake).—Delicate light peach, large, smooth edges, well up in the centre. Most beautiful.
7. *Glory of Cheshunt* (Paul).—A deep yellow, well-formed variety.
8. *Hon. Mrs. Ashley* (Roake).—Bright rosy-pink, large flowers, and a close, compact spike. Extra.
9. *Lemonade* (Bircham).—Pale canary colour, with a purple base; edges of the petals sometimes tinged with chocolate; smooth and full. A novel, beautiful variety.
10. *Omar Pacha* (Bircham).—Straw colour, with chocolate base, and often beautifully laced with purple, thick petals, and a noble, dense spike. Distinct and novel.
11. *Purple Perfection* (Bircham).—A clear self, of a light purple colour, excellent in form and substance. Quite distinct.
12. *Sir Charles Napier* (Bircham).—Dark maroon velvet colour, very glossy, petals thick and smooth, and form excellent.

Price 5s. to 10s. 6d. each.

TWELVE SELECTED OLDER VARIETIES.

1. *Agricola* (Paul).—Lemon colour, with maroon base. A good variety.

2. *Black Prince* (Gibbon).—A good black. Much more double than the older variety of the same name.

3. *Crimson King* (Bragg).—Rich crimson colour. Very fine.

4. *Duchess of Sutherland* (Bircham).—Bright rose, tinged with a silvery hue. Very beautiful.

5. *Fireball Superb*.—Brilliant fiery crimson.

6. *Isaac Walton* (Holmes).—Colour a bluish-grey, shaded. Compact and well formed.

7. *Jenny Lind* (Bragg).—Clear white, and very double.

8. *King of Roses* (Bragg).—Light rosy-crimson. Full and compact.

9. *Queen of Denmark* (Bircham).—Colour an orange-yellow. Novel and distinct.

10. *Sir David Wedderburn Improved* (Currie).—Rich dark maroon.

11. *Sultana* (Bircham).—Ground colour purple, broadly edged with lilac, centre white.

12. *Yellow Model* (Bircham).—Primrose-yellow on a chocolate ground, splendid form, and good petal. A fine variety.

Price 1s. 6d. to 3s. 6d. each.

T. APPLEBY.

(To be continued.)

DRUNKENNESS.

By the Authoress of "*My Flowers*."

THE following sketch is from the same kind hand and valuable pen which have so often aided me in my endeavours to warn or encourage those who may glance at my portion of "the press;" and I do most earnestly entreat the reader's attention to the subject; because, whether high or low, it is imperative to use our utmost energy in checking the woful and fearfully-increasing vice which is here described. Every man, every woman in England, may do something for their God and country: they may use the influence each possesses (every living soul has some degree of influence) in discouraging, if not openly attacking, the enemy that has come as a flood upon the land; and I do not think that any alarm can be too loud, or any effort too extreme, that is made against this great and terrible evil.

"One of the greatest of our national sins is, I believe, allowed by all the inhabitants of England to be that of drunkenness. Happily, the vice is no longer tolerated in the middle classes; and he who would hold a position in life must at once abandon that wretched and abominable habit; but, unhappily, the working classes are still the willing victims of this most successful of Satan's lures. In the manufacturing districts, especially, the sin is rampant, and the hard-working artisan is scarcely recognised by his brethren in the mill or forge, unless he is able and willing to consume a specified quantity of ardent spirits, or strong ale, at one of their habitual drinking-bouts. I believe, were the number of deaths, directly or indirectly occasioned by this vice, to be known, and the families necessarily supported by the middle classes, in consequence of the parents' debauches, taken account of, the result would be so startling that few would give credit to it as a simple matter of fact.

"Although hard drinking is far more prevalent in towns than in rural districts, yet it will be admitted by most of the readers of *THE COTTAGE GARDENER*, that it is by no means confined to the artisan, but is a too frequently prevailing sin amongst our agricultural population; yes, and that, alas! the well-bred gardener, living as he does among purity of association, and lovely emblems of peace and innocence, is not altogether free from this degrading vice.

"It is now some years since I knew John Jones, a hard-working and intelligent member of the "blue aprons," as our valuable friend, Mr. Beaton, would call him, who prided himself upon his knowledge of the profession, and who delighted to set at nought the skill of his neighbours, by the production of monster lettuces and gigantic cucumbers, to the rivalry of which he bid defiance to all competitors. He was at that time much respected by his employers, and gained an honest and excellent livelihood by working in the

gardens of the neighbouring gentry. Eventually he married a respectable young woman, a faithful and valued domestic in the family of a clergyman with whom I was acquainted, and who deplored the loss of their old servant, as a treasure in their domestic arrangements not easily replaced.

"For awhile all went well—Jones was a kind and affectionate husband, and a steady, persevering workman; but the moral atmosphere of a town is ill suited to the development of regular and sober habits in a newly-transplanted agriculturist, unless, indeed, he determines, by God's help and grace, to keep himself perfectly aloof from the enticing ensnarements of the idle and dissolute, who abound on every side in all large towns. Jones, unfortunately, was not of a nature to withstand such temptations, and being naturally inclined to enjoy the society of merry companions, he was at first occasionally induced to take somewhat more than he ought; and, alas! we all know how readily bad habits are formed, and how difficult it is to break them off. From being now and then slightly intoxicated, his habits of intemperance became more frequent. About this time he was induced to try what could be done by cultivating a sort of Nursery-ground upon a small scale, and having by his former careful industry contrived to save a sum, which, added to his wife's little hoard, was sufficient to commence a moderate business of this description, he was not to be blamed for making the attempt. Had he exercised his former self-denial, and acted with prudence and perseverance, there is little doubt but that his undertaking would have answered; as it was, his fits of intoxication increased, and in exact proportion he lost the respect and support of his friends.

"I have often wondered how a drinking gardener, after a night's sinful intemperance, can bear to look upon the lovely personifications of purity that meet him in his morning work. One would suppose he might fancy the dewdrops on the glittering leaves were tears of reproach and sorrow, and the whispering breezes among the summer foliage were gentle notes of mournful sadness for the sins of their unhappy master.

"To resume the story. The respectful and staid demeanour of Jones soon became clouded and sullen, and the once cheerful tone of his voice became hoarse and rude. His poor wife's feelings may be imagined, and she had no family to share her attention and modify her grief, which increased in intensity as she noticed his failing health. Remonstrances in such cases are usually unavailing, and although the madman (for such, indeed, the habitual drunkard really is) will freely admit all that you say, and will frequently make ample promises of speedy amendment, yet rare, very rare are the cases of positive abandonment of the vice. Alas, poor Jones! I think I hear now his loud shout, as I have passed his stall on a market day, during the last few months of his life! His swollen face soon gave him an attenuated and meagre look, which spoke in an unmistakable manner of confirmed ill health; the loud and stentorian voice sank into a kind of hoarse whisper, and the experienced medical man could say at once, pointing to his bending form, "There goes the victim of intemperance!" A little time longer, and all was over; poor Jones was laid in the bosom of that earth he had so long cultivated. What were his feelings on his sad deathbed I never heard—whether he really repented of his profligacy, and became a sincere penitent, seeking peace where only it could be found, I know not—all I know is, that he died in the flower of his age, a poor, decrepit creature, leaving an unhappy widow to struggle in the world, without a penny of her savings left. The Nursery, as might be expected, turned out a complete failure, and swallowed up what little remained of the united savings of the unhappy pair.

"Oh! that this simple narrative might arrest one from the downward path of destruction, and show him that "strong drink" is the mighty weapon in the hand of Satan, with which he slays his thousands and ten thousands in this favoured land of ours.—T. S."

"Sixty millions of bushels of bread-corn are annually destroyed in the making of intoxicating drinks."—*Rev. Henry Gale*.

HEATING BY THE AID OF GAS.

On the 18th of April last I erected a little low-roofed Cucumber-house, fourteen feet long and eight feet wide, with rather a flat rake, and facing the south, and as I had for some three years paid much attention to every kind of heating by gas, I had the gas-piping taken down my garden-walk, and attached to a little cast-iron, square, galvanised gas boiler, situated close in one of the front corners of this house, underneath the stage. At the bottom of this water-boiler I placed four No. 2 fish-tail or union gas jets, and to take away the effluvia, I ran a two-and-a-half inch flue-pipe direct up through the centre of the water, formed a square elbow just above its exit, and from that elbow I ran a continuation of this effluvia-pipe or chimney clean round my little house, soldering up the joints, and having it of galvanised iron also; and I so arranged it that a most rapid draft or "*suck up*" of the heat and carbonic acid took place through it from the gas, and I covered it, both for appearance and to increase my radiating power, with half-round common rough tiles, which I found, when heated, to retain that heat well. Having satisfied myself that the whole of the residuum of combustion was carried off by this pipe, and that, in so doing, I had the satisfaction of not *wasting my heat*, the extreme end of the pipe being but milk warm when it was allowed to go out, I then had flow and return hot-water pipes, three inches diameter of wrought iron, screwed into that part of my boiler where the water was situated; and these two pipes, which I had on a good level, I again ran round my house and back again, about a foot from the floor, and directly under the stage against the front wall. Finding the elbow immediately over the gas was very hot, and fearing it might be of too parching a heat to suit Cucumbers or tropical plants, I covered the elbow with water, constructing a little trough along the pipe, the water in which I supplied by a little cistern (to be filled twice a week), and by a stop-cock, producing a constant *drip*, which kept up an equal supply in proportion as the heat wasted the water by evaporation. To supply my boiler and water-pipes, I also affixed a little galvanised cistern, holding about four quarts, and supplying the bottom pipe near the boiler, and this I found required replenishing but twice a week also; and having provided a copious supply of soft water inside the house from my roof, I started my gas, raised plants from twelve descriptions of Cucumber seed, arranged twenty plants in No. 3 pots, and with nothing but pure loam in them, at the date I now write (exactly two months), from the beautifully soft, equal, and salubrious atmosphere this gas apparatus has maintained, night and day, ever since it was started, I have 450 Cucumbers hanging from the roof; and I have already, during the last three weeks, cut several *Victories of England*, *Roman Emperors*, and others, from eighteen to twenty-four inches long, perfectly straight, of most delicate and delicious flavour, without the appearance of seed, and this at a cost of gas, thus far, at the rate of 30s. for three months, during very cold, sunless weather; for I should remark, that when *once* my heat is completely raised, a small amount of gas sustains it, whilst in the day-time it is frequently extinguished "*in toto*," more particularly if the sun shines. In fact, I have found my gas boiler and pipes literally self-acting. My plants are pictures of vigour, whilst, setting the original cost and its ultimate working against the older mode of heating houses, myself and many who are well able to judge are quite of opinion that "*gas*" has been most effectually and triumphantly applied to horticultural purposes, in face of old standard prejudice, and a belief in its total impossibility on the part of some prejudiced disbelievers. In one hour I can raise the temperature 150° Fahrenheit, and I have neither smoke, smell, dust, trouble, ashes, nor failures.

I have been an amateur florist for some few years, and, like many others of this class, have often felt the nervous dread of an approaching failure of some darling project or experiment from the old fire-flues and hot-water by coal fires, which, although in both cases well constructed, are still liable to many accidents, only prevented by the most vigilant and anxious watchfulness through winter or summer, and that watchfulness necessary, too, from some one always on the premises. But in my little gas affair, I have provided

for all accidents, and so certain as we have gas in our house, or gas in our street lamps, so sure am I also my house is at work, and my plants enjoying that most valuable of all things in horticulture, viz., a pure, healthy, and unchangeable atmosphere. The perfect control I possess over it enables me to push on my Cucumbers at great speed; in fact, they shoot out in a night almost like Mushrooms. I am independent, as far as it is possible, of the weather; and my crop promises to be fruitful, fine, and valuable in every sense. It certainly beats hotbed culture, whether as respects rapidity of growth or flavour; nor do I think, upon the whole, it is half so troublesome, for it is well known a continued supply of hot manure is necessary for early forcing in our usually cold spring months.

As I know many of your amateur readers are interested in these things, and as I further find that there is an inquiry constantly for the application of gas to all sorts of greenhouses, vineries, forcing-houses, hotbeds, and conservatories, any one similarly situated to myself, who is fond of employing his leisure hours in his garden, may cheerfully be allowed to inspect it, when the truth of my assertion will be guaranteed by the plants themselves.

I noticed your correspondent, "R. P.," in your number of April 22nd, 1856, advises your previous correspondent, "W. W.," not to adopt gas. I can easily believe, in a badly-constructed apparatus, it would be better avoided; but if "R. P." saw this invention, I am sure he would alter his opinion.—ALFRED KIMBERLEY, *Edgbaston*.

CLIFTON HORTICULTURAL MEETING.

WE are much interested in the successful working of provincial Horticultural Exhibitions, believing that, if managed upon sound and liberal principles, they are productive of very great good in the advancement of practical horticulture, and are, therefore, grieved when it comes to our knowledge that any Society which has once promised well, should, from any of the causes which contribute to such results, decline or expire. Not less are we gratified to observe other Societies meeting with the success they merit, and we freely contribute our meed of commendation to encourage them in their prosperous course.

The Clifton Zoological Society have fine gardens, and a good collection of plants and animals, and being in a prosperous condition, as regards funds, having paid off their debts, seem determined to spare no means of increasing the attractiveness of their establishment, and have last year and this issued very liberal prize-lists, secured judges of known experience and impartiality, and in every way encouraged competition on fair terms.

Their first show for the season took place on Thursday, the 5th instant, when nearly £200 were distributed in prizes. To the flowers was added, as an additional attraction, the Royal Artillery Band, and the whole being crowned by fine and agreeable weather, the number of visitors during the afternoon was between 8,000 and 9,000; but from the excellence of the general arrangements, in distributing the display over five large tents, besides devoting a reptile-house to the Ferns and Orchids, and by admitting the company in three classes, at 4s., 2s. 6d., and 1s., comfort and enjoyment were insured to all.

Perhaps the most imposing exhibition was the AZALEAS, of which there were three sixes, and several single specimens. The first collection (prize £5), from Thomas Canning, Esq., consisted of very fine plants, from three-and-a-half feet to six feet in height, by two-and-a-half feet to three-and-a-half feet in diameter, well grown, but not over-trained specimens, covered with blossoms. In this collection, *Optima*, six feet by three-and-a-half feet; *Gleditsiesii*, six-and-a-half feet by two-and-a-half feet; and *Prince Albert*, six feet by three feet, would have stood well on any exhibition-table. Mr. Canning also had a single specimen, for which an extra prize was given—a handsome pyramid, four feet high, the lower half of which was of *Variegata*, and the upper of *Lateritia*.

The next most interesting features were the ROSES, in pots and cut blossoms. Of the former were several nice half-dozens. The first prize (£2) was awarded to Mr. R. Nooull, gardener to J. Wiltshire, Esq., Stokewick.

Of EXOTIC ORCHIDS the first prize (£8), for twelve, was awarded to Mr. Bassett, gardener to R. S. Holford, Esq., of Weston Birt. The most remarkable plants were a magnificent *Sobralia*, with twenty-five expanded blossoms; handsome plants of *Tanda suavis*, *V. tricolor*, *Dendrobium densiflorum* (six spikes), *D. nobile*, and *D. fimbriatum*; large plants of *Brassia brachiata*, *Calanthe veratrifolia*, and *Oncidium sphacelatum*.

Some good EXOTIC FERNS, in twelves, were exhibited. Mr. Bassett's collection (first prize, £3) contained fine plants of *Gymnogramma chrysophylla*, *Calomelanos*, and *tomentosa*; *Lomaria Chilensis*, *Aspidium trifoliatum*, *Anemidietyon longifolium*, *Blechnum Brazilianse*, and *Platydoma rotundifolia*.

The LYCORODS were well-grown, large, and healthy. Mr. Bassett's collection of six (first prize, 30s.) contained *Wilderovi*, *dichotoma*, *umbrosa*, *Danielsiana*, *Schotti*, and *Galiiotti*.

The PLANTS WITH ORNAMENTAL FOLIAGE were many of them fine. The best collection of fifty (prize £5), from Mr. Tanton, gardener to G. O. Wintle, Esq., would not have disgraced the Crystal Palace. A bushy plant of *Croton pictum*, four feet by three feet, short-jointed, and dense in foliage, was a very striking plant. Fine plants were in the same collection of *Pandanus utilis*, *Mahonia Nepalense*, *Scindapsus pertusus*, *Cissus discolor*, *Banksia speciosa*, *Dacæna ferrea*, and a narrow green-leaved species, *Dieffenbachia*, *Maranta*, &c.

The STOVE AND GREENHOUSE PLANTS occupied the greater part of the largest tent. The first prize (£8 for twelve) was given to Mr. Shipton. Amongst the best plants we noticed an *Eriostemon scabrum*, very dense, four feet by three-and-a-half feet; *Pimelia Hendersonii*, four feet by four feet; *Polygala cordata*, very fine, three feet by two-and-a-half feet; *Azalea Gleditsiesii*, four feet by three feet; *Leschenaultia formosa* and *Barteri*, each two-and-a-half feet by one-and-a-half feet; a well-flowered *Rhynchospermum*; a good and healthy *Boronia serrulata*; and a well-grown *Aphelaxis macrantha*.

The HEATHS were about as good as they have usually been seen of late years, but we regret much to observe a manifest falling off in the cultivation of this very beautiful family. The first prize for eighteen plants (£6), was gained by Mr. Shipton, who had a good plant of *Cavendishii*. The first prize for four plants (£3), by Mr. Thomas, whose collection contained nice plants of *Ventricosa minor* and *alba*, and a fine plant of *E. Cavendishii*.

The GERANIUMS were not so good in proportion as many of the other classes. The prizes were awarded to the plants which exhibited the nearest approach to well-cultivated specimens. The first prize for twelve (£4), was taken by Mr. Scott, of Bathford. The first prize for six (£3), by Mr. S. Noble, Box, Wiltshire. The first prize for twelve fancies (£3), by Messrs. Garraway and Mayes. First prize for six (30s.), by Mr. Tautou.

The FUCHSIAS (in sixes) were well-grown, handsome, and in good condition. The first prize (£3), was awarded to Mr. Owen, gardener to R. Castle, Esq. He had a very fine and healthy plant of the rather delicate *Climax*; a plant of *Purity*, symmetrical, and loaded with blossoms; and a large, healthy specimen of *Glory*.

The CALCEOLARIAS were abundant, and amongst them were some pleasing varieties. Some Gloxinias and Cinerarias were also exhibited, the former not sufficiently forward, the latter past these; but Pansies were good and abundant. There were also three good collections of British Ferns.

The fruit and vegetables were generally good, and the Strawberries were particularly fine.

CHILDREN'S GARDENS.

(Concluded from p. 175.)

OF late much has been written about the utility of teaching "common things," by which phrase it seems to be meant things that everybody is supposed to know and doesn't. Estimating greatly the value of such teaching, I think I cannot conclude these notes better than by pointing out a few modes in which the garden may be made subservient to it.

For this purpose I would select a piece of ground in a warm situation, to be devoted to experimental and economic botany, in which to lead my pupils through a series of practical experiments, new and old, illustrative of the leading points of vegetable physiology, the principle of fructification and hybridising, the comparative effects of manures, with many other things which might here be exemplified on a small scale; nothing, in fact, is too simple for those who have everything to learn. For instance, transplanting, budding, or grafting, both in the right and the wrong season, will lead to the query, "Why should the time of year cause a difference?" the "because" affording an opportunity of explaining the theory of sap circulation, upon which, again, fresh experiments may be based.

I admit that a certain amount of knowledge is requisite; more, perhaps, than is possessed by many, but not more than is easily acquired. The other part of the scheme is, however, free from any such difficulty.

In the remainder of the ground I would plant such things as, though generally known by name, are confined in their cultivation to limited localities. To show the use of such a collection, I will relate the circumstance which gave birth to the idea. Some years since I was travelling in Kent a few weeks before harvest. Next morning a young man, apparently from some northern county, who criticised Kentish farming pretty freely as we went along. By-and-by, however, we passed a field of Canary seed, with its graceful little cones still green. The young man inquired what kind of corn it was. "Those, Sir?" said the coachman; "those are nutmegs, Sir." "Nutmegs! I thought they only grew abroad." "Quite a mistake, Sir; can't you see the green nuts a-top?" The passenger could not but believe his own eyes, and asked further how many pounds' weight an acre was a good crop, which caused a violent explosion of the listeners' pent-up laughter. I could not but admit that the victim merited the ridicule for his self-conceit, and at the same time my thoughts were directed to the discovery of a remedy, or rather, a preventive, for such ignorance of things misnamed "common."

The object, then, should be to select such plants as would not otherwise come under notice in the locality. Thus, in Kent, Hops and Canary are plentiful enough, but in many other counties they require to be grown expressly for the purpose of making the young acquainted with them. Flax and Hemp, Tobacco and Maize, are also worthy of a place, for though all persons know their uses, yet few are familiar with them in their living state. These examples suffice to exemplify my idea; and as my object is not to write a treatise, but only to afford hints capable of development, I proceed.

The collection of an herbarium of British wild flowers is continually recommended as a healthful and instructive pursuit; yet I suspect it to be among the things more generally approved than practised. I doubt not that the experience of some of my readers is much as follows. Having read with delight one of the interesting treatises on "Wild Flowers," he lost no time in providing himself with a plentiful stock of blotting-paper, and, full of zeal, issued forth on a fine summer's day to gather specimens. Truly it was an easy task! The tin box was speedily filled and home regained. But oh, the naming! What hunting over his book! what poring over descriptions only half understood does it cost to identify the miscellaneous collection! Plant after plant is laid aside and named at a venture, till at last the task is given up in despair. Such was literally my own case, and for years after I never thought of it except with disgust. The error lay in attempting too much at first, and I desire to spare others from a similar disappointment by advising them to adopt the maxim, "Divide and conquer." Let only one or two classes be taken in hand at a time; suppose we say, the Nettles, the Grasses, the Ferns, the Mosses. The first three of these, at least, are easy, though the young collector will find, as his eye gets sharpened by practice, that there are more species of them in his neighbourhood than he before suspected.

A good beginning may be made by forming a collection of sprigs of all the forest trees and Firs, with accompanying samples of their fruits or cones; the leaves are easily dried in perfection, and the English name affords a key by which the scientific one may be discovered. If the description be caro-

fully read and compared with the specimen, a number of technical terms will be mastered with little trouble.

The last particular I shall notice is the facility a garden affords for cultivating a correct taste in regard to the harmony and contrast of colours. Following my favourite method, I resort to illustration. A youth volunteered to gather a bouquet for a lady at whose house he was staying. The garden being extensive, ample choice was afforded; he selected whatever he thought proper, and having arranged the group to his liking, he brought it to his hostess. A glance sufficed to discover that both selection and arrangement were extremely faulty, so the lady skilfully introduced a conversation on the laws of colour, showing from the flowers in question the different effects producible by arrangement. The boy was interested, and proved that he was instructed too by the very superior bouquet he produced on the next occasion.

I now lay down my pen, not because my subject is exhausted, but because I am unwilling to trespass further on the patience of my readers. Should I be styled an enthusiast, I accept the title and glory in it; but if my hints are regarded as mere theoretical notions, I beg emphatically to affirm that every one of them has been put in practice successfully, either by myself or by others under my own observation.—E.

NEW BOOKS.

TRANSACTIONS OF THE SCOTTISH ARBORICULTURAL SOCIETY.

—The first part of the first volume of the proceedings of this very praiseworthy Society is just published. Besides the Opening Addresses, it contains some excellent essays on Wood Drainage; on the preparation of Oak Bark for sale; on local Arboricultural Societies; and on Pruning Forest-trees. The following is extracted from the last-named:—

“Pruning hardwood trees is an operation which I consider indispensable, if we would have sound clean timber. It too frequently happens that we have to deal with neglected trees; and there is a stage at which trees may have arrived, when pruning to any extent would be useless. The time which I consider trees ought to have their first pruning, after being planted where they are to remain, is, when they show proof that they have established themselves in the soil, and not till then, for I have never found any benefit to the plant arise from pruning before this time. Trees pruned when they have not established themselves are apt to push out young wood; but it rarely happens, in this quarter at least, that the young wood ripens properly; and the frost and cutting winds in winter kill back a great portion of it, and when young wood is killed back, it is, in my opinion, a means of rendering the plant unhealthy for a time, which retards rather than facilitates its growth. I never cut any of the branches close for a considerable time, and never cut any close but those next the bottom of the tree. I have ample proof of the bad effects of thinning out branches on a tree; for those left just grow the faster, from having more light, air, and nourishment. I shorten all contending branches, or those that appear to be appropriating too much of the substance which ought to be deposited on the main stem, but keep all those which keep within proper bounds, and by this method the strong branches are checked; for shortening, if not carried too far, will check the strong branches, as I have ample proof. If I find a strong branch with lateral shoots or spray upon it, I cut back the branch to some of the smaller branches, and endeavour to leave as little appearance of pruning as possible. When the trees are large and neglected, it is impossible to do this; but I prune very little off trees after they arrive at this stage; all I consider necessary to be done to them is to balance their tops, and preserve one leading shoot if the tree is not at the height required; and this is done on the foreshortening principle, but by cutting the branches at a greater distance from the bole, and only such of them as are straggling, and liable to be broken by storms. Many fine trees are destroyed for want of a few of these straggling branches being shortened. I make no difference in my mode of operations when pruning for timber, my aim being to produce as much sound clean timber in each tree as the nature of the soil, situation, and climate, will permit; and this applies equally to all kinds of hardwood. I do not find it necessary to prune oftener than

once in two years, except the young trees—that is, till they are beyond reach of the pocket-knife,—these I endeavour to have pruned every year; but pruning, if too frequently or too severely applied, will prove hurtful to the tree. It is not uncommon for healthy trees, the first year after pruning, to push up three to five feet of a leading shoot, and when so much growth is produced in one year, the tree makes little or no progress to height the following season, but furnishes the previous year's shoots with side branches. Some pruners evidently believe that a tree will produce timber as fast with few branches as with many, from the way they treat their trees, some thinning out the branches, others cutting away a large number of them close to the stem at one operation; but I always endeavour, by shortening, to keep the branches as small in circumference as I can, and have plenty of them; and if I thin any, it is for the purpose of checking the strong branches, and may cut them further back than the ordinary outline of the tree, and by this means the wounds are in a great measure hid. By this system of pruning I have Oaks thirty feet and upwards in height, and no branches on them more than two-and-a-half inches in diameter at their base, and few of them so thick. These trees have not been so regularly pruned as I could have wished, but they show what a little assistance will do for them.”

BRITISH BUTTERFLIES AND MOTHS.*—This is a very cheap and very useful book of reference, excellently illustrated with a woodcut of each species, with ample descriptions and particulars relative to the habits of the insects. The following relative to one family of Butterflies, the *Papilionidæ*, is a fair specimen of the contents:—

“All the *PAPILIONIDÆ*, if we except *Leucophasia Sinapis*, are tolerably brisk fliers, and a good chase is frequently necessary in order to secure one when in view. *Pieris Brassicae* is a strong flier; but *Colias Edusa* is far more swift on the wing. *Papilio Machaon* is not only a rapid but a high flier, capable of soaring, whereas the other species rarely ascend to any height from the ground.

“Of this family the first that greets us in the spring is *Gonepteryx Rhamni*, which in February or March, if we have hot sunny days, delights to sport in country lanes; with the warm spring weather of April it becomes a more frequent visitor, and is then joined by *Pieris Rape* and *Napi*, and a week later by *P. Brassicae*. These last are especially to be found in gardens and fields, and may be seen not unfrequently in the heart of London. May, if it be but warm (as the month of May once used to be), brings out *Anthracis Cardamines*, and many an eager chase is made to catch this (one of our prettiest species) by the young and ardent entomologist. May is also the time to look for *Pieris Daphnice*, but I cannot give a receipt for finding it. *Papilio Machaon* emerges from the pupa the middle of May; but it is so local an insect with us, that, except in its own private haunts, the fens of Huntingdonshire and Cambridgeshire, it is useless to expect to meet with it. In June *Aporia Cratægi* and *Leucophasia Sinapis* appear, but both are local species, and not of general distribution like the common white butterflies. Towards the end of July the second brood of *Pieris Rape*, *Napi*, and *Brassicae*, may be observed, and they continue throughout August. *Daphnice* is also again to be looked for. In August *Gonepteryx Rhamni* again gladdens our eyes; and *Colias Hyale* in some years may be found in lucerne-fields in the South of England. Towards the end of the month *Colias Edusa*, more beautiful but less valued, because commoner than its congener, appears, frequenting clover-fields and the sunny sloping banks of railways in the South; and throughout September and till late in October stragglers both of this and *G. Rhamni* continue to cross our path, whilst we are perhaps in search of that one covey of partridges, or a solitary pheasant reputed to be somewhere within our reach.

“Any collector may with certainty obtain *Rhamni*, *Brassicae*, *Rape*, *Napi*, and *Cardamines*, the first year that he looks after them. *Machaon*, *Cratægi*, and *Sinapis*, he will only find by visiting their localities. If he visit the South coast in autumn he will hardly fail to see *Edusa*, when, of course, it will be his own fault if he don't catch it. It may be years before he meets either with *Hyale* or *Daphnice*.”

* *A Manual of British Butterflies and Moths.* By H. T. Stainton. London: J. Van Voorst.

CULTURE OF VIOLETS.



It is possible, certainly, to have too many Violets; but where is this the case, at least in winter? and where is the lady or gentleman that does not admire them? Then why should not those who have the means have enough and to spare, when they are so easily come-at-able in every garden worth the name? As this is the season to prepare for them, allow me to tell your readers a system I have practised with success.

Choose the best-sheltered spot from the north that you can spare, where they will have their share of sunshine, both in summer and winter. Raise a bank or banks similar to that shown in the above sketch, of any rubbish of a loose texture, formed into steps with stones or bricks on edge, or, what is better, the refuse clinkers from the furnaces or brick-kilns, or you may drive in a few short stakes. In fact, use anything handy that will keep the earth up, and allow these steps to be one foot in width, and nine inches in depth. This will allow three inches of lime-rubbish or burnt earth, and leave six inches for chopped turf, and about one-fourth of leaf-mould, or, if the latter is not to be had, use manure with a portion of sand. When planting, keep the plants four inches apart betwixt the rows, and six inches in the row, which will allow three rows on each step.

In selecting the plants I should be quite as particular in looking out strong, healthy, single shoots, as I should in selecting plants of Strawberries for forcing; nor do I allow an offshoot to grow from them, any more than I would allow the suckers of a wild Rose to overpower that of a favourite one that was worked upon it. After planting and watering, the Violets will be the better from a slight shading of branches for a few days. If the above is practised, and ordinary care taken with them in attending to watering in dry weather, they will get nice plants by the end of August, when, if the weather is wet, some means, such as oil-papered frames, must be used to keep them rather dry than otherwise, as this is the time to form their flower-buds. If this is attended to until the end of September, you will have a fine lot of buds at your command, and, as then will be the time to cover them at nights with glass, at least those you want for early work, you will be able, under ordinary circumstances, to rule their movements as you like.

Those who want large supplies in December and January must not depend on November and December to get them. I need not tell those conversant with Violet culture, that if the flowers are kept dry they will remain a long time in

good order on the plant. Therefore, be in time. Also, if you require to portion them out, I would advise you to keep them under the straw for a month, rather than let the young ladies get sight of them. If they do, it's all up with Mr. Gardener's supply. They are troublesome pets, not pests, of course, at Christmas amongst the Violets; but, as I said above, why not have enough for them too?

The best varieties I have found for the purpose are the *Neapolitan* for early work, and the *Late Double Russian* for late supply. The *Single Russian* ought always to be grown where large supplies must be had.

Allow me to say, in conclusion, that Violets make a fine ground outline for a large bed of *Lobelia fulgens*, and the large crimson varieties. In 1831, I had a large oval bed of *Neapolitan* Violets and *Lobelia fulgens*, with a strong edging of the then much-to-be-admired *Verbena Melindres*, about one foot in height, with a good, bold handle, covered with *Maurandya Barclayana*. As a whole, it really formed a good apology for the then ridiculous fancy of having handles to their clumps. Replace the Verbenas with a nice dwarf variegated Geranium, and do away with the handle, Mr. Beaton, and you have a clump that would not disgrace Kew, or the grounds of the Crystal Palace.

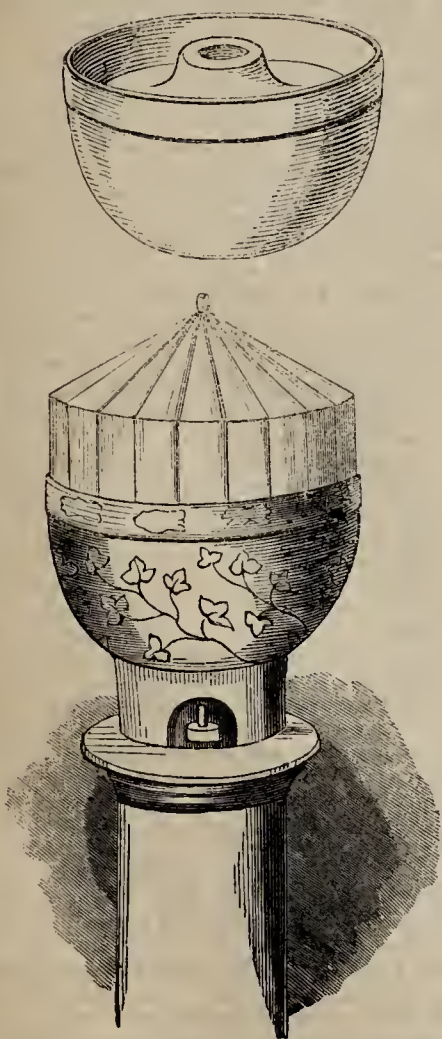
The above sketch of a glazed bank for growing Violets will be equally useful for wintering Verbenas, Calceolarias, &c. Also, for forcing Strawberries and Kidney Beans, to come in between those grown in pots and the out-door fruit. It would be useful for other things too numerous to mention.—D. FERGUSON, *Stowe, Buckingham.*

NOTES FROM PARIS.

WITHIN a few hours after reading Mr. Beaton's notice of the Waltonian Propagating Case, in your number for March 11th, I had occasion to pass the shop of M. Follet, Rue de la Banque, and my attention was immediately arrested by seeing in the window a contrivance having considerable affinity in principle, at least, to that I had just been reading about. M. Follet keeps an extensive and rich collection of pottery, such as ornamental vases, hanging baskets, and, indeed, everything else that can be used of such material for conservatories, saloons, or gardens. With the exception, therefore, of the hand-light and lamp, his propagating appa-

ratus is made simply of fine clay, and certainly the beauty of some of the designs forms one of its most attractive features. M. Follet, however, is a shrewd gentleman; yet, like some others of his generation, he is not exempt from a liability to see sometimes too far, and overshoot the mark. I requested permission to make a sketch of one of his more elegant designs which are not shown in the window, and send it with a notice to you for publication. But this favour was refused, on the ground that it would lead to his invention being copied, and thus injure his connection in England. Now, it is quite clear, I think, that if he has any connection in England for this *appareil*, as it is called, his own models sooner than anything else will effect what he so much fears, unless he has a patent on the other side of the channel. But M. Follet's objection is all the more unreasonable, seeing that a description of his apparatus was published fifteen years ago in one of the Paris horticultural periodicals, which, however, I have not access to at present.

Now, I have said this much in total ignorance of the history of the Waltonian Case, and I have not seen your volume for last year, in which Mr. Beaton states that it is noticed for the first time. It may, therefore, be a question whether this is an English or a French invention; but leaving that point for the present, I send you a sketch, from memory, of what is shown every day in the shop window of M. Follet. But it is the plainest model of the stock; others are much more ornamental, or more tastefully got up, and all mounted on handsome pedestals of the same material; but in every instance the mode of heating is by a lamp.



The smaller figure shows the interior before the soil and the cuttings have been introduced. I may just observe that the hand-light rests in a groove all round; that the model, in this instance, is about eighteen inches in diameter; and that it may be either placed on a pedestal, as in the sketch, or on a table.

There is, in the *Illustrated London News* of March 20, an

article on butter, dairymaids, &c., a subject which is not without some interest to many of your readers, and may not inappropriately be discussed in the pages of a journal which, besides being devoted to horticulture, is unquestionably the leading organ of the egg and poultry interest. There are several observations in that article which are seasonable and just; but the writer wants to make us believe that good butter, at a reasonable price, is not to be had in England, that it is only in France, Holland, Belgium, Switzerland, &c., that this "real luxury" is to be obtained. Even in Paris it is said, "The butter is always worthy of the admirable *café au lait* and faultless *petit pain* which the *conciérge* of a second-rate hotel contrives to bring up to you." Now, the fact is, the *café au lait*, in nine cases out of ten, is only a mixture of milk and chicory; the *petit pain* (little loaf) speaks for itself, for it is but very little we get out of it; and as for the *conciérge*, whom we are left to consider as some ministering angel—that is, the porter's wife—invariably a disagreeable, tattling busybody, disliked and dreaded by all who have anything to do with her; and the butter—the chief pearl of the string—is not to be had, fit for use, in any shop in Paris under twenty-four sous (2s.) a pound. The best quality is thirty sous (2s. 3d.), and, I suppose, in a "second-rate hotel"—especially if the *conciérge* is commissioned to fetch it—it would be charged just half-a-crown. Although my own mind has been long made up on these several items, I have thought it worth while making one or two inquiries of persons most likely to be well informed, and the answer I have received has fully confirmed my opinion: "*C'est horriblement cher et pas bon*" (frightfully dear and not good). Now, the writer in the *Illustrated* says of English butter, that "in those few establishments where genuine Epping, Cambridge, and Dorset butter is sold, the price is enormous, seldom under 1s. 8d. a pound." These facts speak for themselves. We have inferior butter in Paris at 2s. and 2s. 3d. a pound, while the genuine Epping, Cambridge, and Dorset butter, the very *cream* of English produce, is to be had in London at 1s. 8d. Depend upon it, butter in England is just as good and as cheap as in any other country, at least as it is in Paris, and much more so at the present time; and what is more, the English people have not the filthy practice of handling butter *with their fingers*, as is so much in vogue among the dealers in Paris, who very often, and I might say in general, are also dealers in soap, cheese, and candles. Here butter-knives are seldom or never used by shopkeepers, who cut the quantity of butter wanted with a wire or string, as London grocers cut soap, and then the fingers are used to lift, add, or diminish, till the pound or half-pound required is made up. This is the invariable practice in the butter markets and "general" greengrocers' shops, where fifty other things are compassed by the same digits in the course of a morning. A pleasant reflection, worthy of the *café au lait* and the *conciérge* afore-said! In Paris the authorities regulate everything in the way of buying and selling. Even the ham and bacon dealers are not allowed to use coloured paper, lest the poison of the colour should be absorbed by the meat; but it is amazing that these vigilant guardians of the public weal do not compel the butter dealers to use knives instead of their fingers.

After all, butter-making is a very simple affair where there is a certain quantity of cream. I have known gardeners and gardeners' wives who used to make half-a-pound of butter at a time, as often as it was wanted, and that simply by shaking a bottle of cream up and down for about an hour. It seems to me that the best way to secure fresh, sweet butter is to make small quantities at a time. Any family may make its own butter without the least difficulty, and every girl may learn the process in ten minutes. But, in general, nobody thinks of making it till a quantity of cream sufficient for ten or fifteen pounds has been collected together, and then it is a good morning's work, and stiffish work too. The churn must be large, and, of course, large churns require strong arms; but why cannot we have "The boy's own churn," and "The girl's own churn," as we have other things especially adapted for the rising generation? Why should we send our young people to a gymnasium to have their muscles braced, when we might more cheaply effect our object at home, *plus*, a couple of pounds of genuine sweet butter? And then, did ever butter relish like that made by

our own girls? Was ever friend or visitor offered anything so acceptable? Was ever mamma so proud? was ever papa so well pleased? I fancy I see the little merry hearts glowing with health and pleasure, shouting and laughing, and all eager for their turn at the handle of their "own" little churn. Of course this business would require to be properly gone about. There should be a time-keeper, so that all might have their full share of the fun; then one of the young ladies should be appointed judge as to when the butter was really made, and ready to be taken out, mamma only acting as court of appeal in case of any difficulty or technical objection arising. Now then, girls, for a game at churning butter!

Before concluding this subject, it may be worth while just to mention, that some years ago I saw in Drummond's Agricultural Museum in Stirling an ingenious contrivance for churning without that which is commonly called manual labour; for, in reality, the butter was churned by a dog, that merely kept moving his feet, and giving his body a slight inclination forwards, yet always remaining in the same spot. This dog was a large docile creature, kept harnessed to the machine, and always ready to go through his performance when required.

I think, therefore, that the ordinary modes of churning might be much improved upon. Perhaps one of the most economical ways of getting the work done would be to connect the churn to the rocking-horse, the swing, or the see-saw plank, and in such a way as to be detached at pleasure. I do not suppose that there is any mechanical difficulty in the way. Churning is a tedious process when other work is urgent; but where there is a rocking-horse or a see-saw, my young friends would be pretty certain to save you all trouble if this hint was acted on. It is sometimes easy enough having our bread buttered on both sides. Just think of the quantity of butter and butter-milk that might be turned out in this way by those people who keep hobby-horses on the windlass principle in all the public places of open air amusements here. Really, if I were disposed to speculate and open up a new source of agricultural prosperity, this would be my choice:—Children, rocking-horses, see-saw, swing, churns, butter, bread, mangold wurtzel, and short horns! All related by easy gradations, and depending on one another. May we not look forward to the day when the nursery appendages in question will form a valuable addition to our list of agricultural implements?

I beg to recommend this subject for the consideration of Mrs. Mary Wedlake, Mr. Claydon, and all others who take an interest in agricultural improvements.—P. F. KEIR.

April 16.

ROYAL BOTANIC SOCIETY'S SHOW.

THE second Exhibition of the Royal Botanic Society was held in the Gardens, Regent's Park, on Wednesday, the 18th inst., and if a profusion of flowers, fruit, and fashion be an indication of success, there was nothing wanting of either. In the early part of the day it was feared that Her Majesty's ball on the previous night would prevent many of the nobility from being present; but whether from the fineness of the day, or the expected pleasure to be derived, a great many of the higher classes were early in attendance. We observed the Duchess of Cambridge and the Princess Mary, the Countess of Neuilly (ex-Queen of the French), the Duke and Duchess of Nemours, Prince and Princess Joinville and family, the Duke and Duchess of Sutherland, the Duchess of Marlborough and Sir Walter Stirling, the Marchioness of Clanricarde, Earl and Countess Waldegrave, Earl of Ellesmere, Earl and Countess Craven, Earl Fortescue, the Countess of Essex, the Bishops of Winchester and St. Asaph, and many of the nobility. Although the opening of the great Crystal Palace fountains was announced for the same day, the attraction at the Royal Botanic was so great, as to draw between 8,000 and 10,000 of the *élite* of the town.

The Exhibition was held, as usual, in the large tent which is appropriated for the purpose, and there can be no doubt that the ground so skilfully and artistically arranged by Mr. Marnock, by means of which every single plant is viewed perfectly, and the vast whole forms a luxurious

coup-d'œil, is the most suitable exhibition ground which has yet been contrived. The Orchids, Pelargoniums, Fuchsias, Roses, Ericas, and other stove and greenhouse plants were magnificent; to particularise would occupy more space than we can afford, and we shall, therefore, confine ourselves to noticing some of the most attractive.

In ORCHIDS the extra Gold Medal was awarded to Mr. Gedney, gardener to Mrs. Ellis, of Hoddesden, for the best twenty; and Mr. Woolley, gardener to H. B. Ker, Esq., of Cheshunt, was second. For the best twelve, Mr. Kcele, gardener to J. Butler, Esq., of Woolwich, was first; among which we noticed very excellent specimens of a variety of *Cattleya Mossiæ*, *Dendrobium tortile*, with a sulphur-coloured, trumpet-shaped lip; *Lælia cinnabarina*, and another very fine variety of *Cattleya Mossiæ*. The second prize was obtained by Mr. Clark, gardener to C. Webb, Esq., Hoddesden. For the best six, Mr. Grix, gardener to A. Palmer, Esq., of Chcam, was most successful with *Aërides odoratum*, *Dendrobium nobile*, *Oncidium flexuosum*, *Aërides crispum*, and *Maxillaria tenuifolia*, all of which were admirably grown.

THE STOVE AND GREENHOUSE PLANTS were splendidly grown, those of Mr. May, gardener to H. Collier, Esq., of Dartford, taking the first prize, for a collection of sixteen; Mr. Taylor, gardener to J. Coster, Esq., being second, and Mr. Peed, gardener to T. Tredwell, Esq., being third.

THE PELARGONIUMS formed a complete blaze of beauty. Among them we noticed *General Pelissier*, *Ellen Fawcett*, and *Emperor*, which is somewhat in the way of *Hera of Surrey*, all of which had certificates. We also noticed a very fine one, called *General Williams*, with dark upper petals, white throat, light centre, and the under petals rose, streaked with crimson. Mr. Turner also received the Bronze Medal for *Prince of Prussia*, which is an intense scarlet, with black upper petals. Four immense plants of Fancy Geraniums, grown by Mr. Thompson, of Barnet, attracted great attention, not only from their great size, which was over a yard in diameter, but from the fact that they were grown without sticks to train them out; and very fine specimens of superior cultivation they were. The six best "fancies" were from Mr. Boussie, gardener to the Right Hon. H. Labouchere, and consisted of *Electra*, *Criterion*, *Charles Dickens*, *Cassandra*, *Triumphant*, and *Barbette*; and the best in the nurserymen's class were from Mr. Turner, of Slough, being *Erubescens*, *Criterion*, *Lady Hume Campbell*, *Celestial*, *Evening Star*, and *Perfection*. Among the common Geraniums, Mr. Nye was first with *Attraction*, *Edith*, *Purple Perfection*, *Golden Fleece*, *Enchantress*, *Fair Ellen*, *Optimum*, *Seraskier*, and *Carlos*; and in the nurserymen's class Mr. Turner was first with *Astræa*, *Lucy*, *Queen Eleanor*, *Esther*, *Painter Improved*, *Leonora*, *Governor-General*, *Enchantress*, *Virgin Queen*, *Sanspareil*, and *Carlos*. Among the new Geraniums which attracted greatest attention, were *Snowflake*, *Omar Pacha*, *Admirable*, *Lord Raylan*, *Wonderful*, and *Phacton*.

THE CALCEOLARIAS were also very fine, particularly the herbaceous ones of Mr. James, among which we were attracted by *Brunette*, *Fandango*, *Beauty*, *Marie*, *Commander-in-Chief*, and *Duchess of Northumberland*. Messrs. E. G. Henderson, of the Wellington Road, had also a very choice collection of herbaceous seedlings, which, however, were not named, from the circumstance that Messrs. Henderson treat them as annuals, and preserve them only for saving seed. Our readers will, therefore, be able to judge from these the quality of seed which these gentlemen supply. There were several other objects of interest in the great tent which attracted our notice. Away in a shaded nook, appearing as if in their native habitat, was a collection of NATIVE FERNS, abounding in interest; large masses of *Hymenophyllum Tunbridgense* and *Wilsoni*; fine specimens of *Woodsia ilvensis*; and numerous other rare species. We noticed, also, a beautiful double *White Petunia*, from Messrs. Henderson, of Pine-Apple Place. It is as double as a Rose, and appears to be a free and healthy grower.

Messrs. Standish and Noble, of Bagshot, exhibited a fine collection of RHODODENDRONS in pots, which attracted considerable attention, as did also the VARIEGATED PLANTS from Messrs. Henderson, of Pine-Apple Place, which consisted of *Marantas*, *Coleus Blumei*, *Caladiums*, and the beautiful *Cissus discolor*. We must not forget to notice a beautiful new Dwarf Scarlet Geranium, from Mr. Turner, with variegated leaves like Flower of the Day, but the flowers of a

brilliant scarlet. It is called *Alma*, and cannot fail to be a valuable bedder.

The FRUIT tent was, as usual, an object of great attraction. At one end of the table we noticed three *Plums*, in pots, from Mr. Fleming, of Trentham, all of which were laden with fruit so perfectly ripe, that some had fallen from the trees,—they were *Green Gage*, *Coc's Golden Drop*, and *Jefferson*. Beginning with the *Grapes*, we may say that they were all good; but those which we particularly noticed were three bunches from a pot-vine grown by Mr. Williamson, of Whitehaven Castle, Cumberland, and for which he got the Silver Medal. They were large, well coloured, and well grown. Three magnificent bunches of *Black Hambro's*, from Mr. Fleming, of Trentham, for which he got the Silver-gilt Medal, were remarkably well coloured. Mr. Turnbull, gardener to the Duke of Marlborough, at Blenheim, also had a Silver Medal for *West's St. Peter's*, which were also very fine. Three very fine bunches of *Black Hambro'*, from Mr. Forbes, gardener to the Duke of Bedford, at Woburn Abbey, had the small Silver Medal; and three magnificent bunches of *Black Prince*, from Mr. Hill, gardener to R. Sneyd, Esq., got a Silver-gilt Medal. Mr. Hill had also the Silver Medal, for three very large bunches of *Black Hambro'*. In the White *Grapes*, Mr. Forbes, of Woburn Abbey, took the Silver-gilt Medal with *White Frontignan*; and Mr. Dawson, gardener to Earl Cowper, Penshanger, the small Silver Medal with *Chasselas Musquée*. Mr. Turnbull, of Blenheim, was first, as usual, with *Muscats of Alexandria*, of which he had three splendid bunches, and in a much more forward state of ripeness than those he grew last year.

The most attractive among the PEACHES and NECTARINES were the *Noblesse*, from Mr. Snow, gardener to Earl de Grey. They were very large and handsome, and well merited the Silver-gilt Medal which they got. Among MELONS, Mr. Bailey, gardener to J. S. Drake, Esq., of Shardiloes, took the small Silver Medal with *Mackie's Green-flesh*; and Mr. Dawson, gardener to Earl Cowper, had also a small Silver Medal, for a small variety called *Hybrid Scarlet*. Certificates of Merit were awarded to Mr. Henderson, gardener to Sir George Beaumont, for *Fleming's Hybrid Cashmere Green-flesh*; and to Mr. Frost, gardener to L. Betts, Esq., of Preston Hall, for *King's Green-flesh*. In FIGS, Mr. Snow, gardener to Earl de Grey, took the Bronze Medal, for very fine specimens of *Brown Turkey*; and Mr. Richards, gardener to Lord Londesborough, had also very fine specimens, for which he also had a Bronze Medal. The STRAWBERRIES were enormous in size and beautifully coloured; those of Mr. Smith, of the Richmond Road, consisting of *British Queen* and *Sir Charles Napier*, being the best; while those of Mr. Bailey, of Shardiloes, consisting of *Admiral Dundas* and *Ketley's Goliath*, were very fine. Under this department were also exhibited collections of PANSIES, from Messrs. Stark, Downie, and Laird, of Edinburgh, all of which were large and very handsome flowers. But there was one which was exhibited from Mr. Stark which we cannot pass without notice, as it promises to be the founder of a new race. We have been too long working on the old strain, and, unless it be in size and some other minor points, we have made but little progress during many years past. It was so with Pelargoniums till the "fancy" varieties made their appearance, and so, also, with Dahlias; and we have no doubt but this new variety called *Mazeppa*, if well worked, will break the old strain, and give us something new in the way of Pansies. Although it has not the fine round form which characterises the old varieties, this is a fault which may afterwards be remedied. Its great feature is, that every petal has in the centre of it a large wedge-shaped flame of a light colour, while the remaining portion is of a dark purple; and it was the opinion of many who saw it, if due attention is given to it, we may soon see the old strain broken through, and a new race take their place.

Not the least of the many attractions which the Royal Botanic Garden presents was the great American Garden, which is also under canvass, and arranged in the same style as the exhibition ground, with winding walks, sloping banks, and undulating surfaces. What a blaze was there! Rhododendrons and Azaleas of all sizes, from the little *Hirsutum* to the tall standards like Apple-trees, and the enormous bushes like Portugal Laurels, all vying with each other for the supremacy. Wednesday last was a

luxurious treat at the Botanic, and everything contributed to establish this now favourite resort as one of the most attractive promenades of the London season.

NEW PLANTS.

ARISTOLOCHIA THWAITESII (*Mr. Thwaites' Aristolochia*).

A stove plant from Ceylon, where it was discovered by Mr. Thwaites. It flowered at Kew in March, 1856. More curious than beautiful.—*Botanical Magazine*, t. 4918.

ODONTOGLOSSUM HASTILABIMUM var. *FUSCATUM* (*Halbert-lipped Odontoglossum*, brown-petaled variety).

It was flowered in March, 1856, by Messrs. Jackson, nurserymen, Kingston-on-Thames. Native of Venezuela, where it was found by Mr. Birchell.—*Ibid.* t. 4919.

PERNETTYA FURENS (*Maddening Pernettya*).

This evergreen strongly resembles an *Arbutus*, but the white flowers are more conspicuous. It is a native of the southern parts of Chili. Raised from seed by Messrs. Standish and Noble, of Bagshot. It bloomed in the open ground in March, and is a great acquisition.—*Ibid.* t. 4920.

MASDEVALLIA WAGENERIANA (*Mr. Wager's Masdevallia*).

A very small Orchid from central America, introduced by Messrs. Rollison, of Tooting Nursery.—*Ibid.* t. 4921.

CLAVIA ORNATA (*Elegant Clavija*).

"A noble stove plant, with a clear, tree-like stem ten or twelve feet high, bearing a crown of leaves at its summit of very large size, together with long, drooping racemes of bright orange-coloured flowers from the axils of the leaves, and from the scars of the fallen leaves or the bare trunk." It was sent from New Grenada by Mr. Purdie.—*Ibid.* t. 4922.

ODONTOGLOSSUM MEMBRANACEUM (*Membrane-sheathed Odontoglossum*).

Very fragrant, and one of the finest of the Mexican species. Native of the vicinity of Oaxaca; blooms in April; flowers white and crimson.—*Ibid.* t. 4923.

THE HOUSEHOLD.

A NEW AND ECONOMICAL WAY OF COOKING THE REMAINS OF COLD BOILED SALT BEEF.—I found out this plan the other day from having offered to a poor woman the remains of a piece of boiled beef, about one-and-a-half pounds weight, and some cold, cooked potatoes, which she refused, alleging that her teeth would not allow her to eat the meat, and potatoes she had a large quantity of (they being only threepence per peck here), she said they would do for her pig.

I replied, "Never mind; I will have it for our suppers."

I proceeded thus. I cut the meat up into small dice—the same as for minced veal—I placed it in a small stewpan, with a tablespoonful of clean dripping, and a little pepper. I then put it on the fire until it was warm. I then added a tablespoonful of vinegar, a teaspoonful of moist sugar, gave it a stir up; I then added a tea cup full of thin-flour and water; a tablespoonful of mustard; and let it simmer gently before the fire. I then proceeded with the potatoes, by placing them on a stewpan with a little milk, a small quantity of dripping, pepper, and salt; placed it on the fire, and with two forks, held in the right hand, beat up the potatoes until they were all mashed, and quite light; replaced them on the fire until quite hot, and turned them out on a dish, making a hole in the middle of the potatoes for the meat, when ready.

The meat being hot and boiling, and the flavour all right, which should be rather strong of vinegar and pepper, I beat up two whole eggs in a bason, and poured them into the stewpan with the meat. Do not allow it to boil; but stir gently, and serve in the middle of the dish, surrounded by the mashed potatoes. This made an excellent supper dish at a very little expence. I have since

tried cold baked leg of pork in the same way. I have added to it, instead of plain vinegar, Chili and Tarragon vinegar mixed; and, also, on one occasion, two tea-spoonfuls of Chutney; but I found two tablespoonfuls of Apple sauce equally as good; but in all cases sugar must be added.

This I find a much better plan of using up cold boiled beef than cooking it as bubble-and-squeak, as, at this time of the year, the vegetables required for it cannot be had.

If a little gravy should happen to be in the larder, it may be added to it.

Cold tongue, either alone or mixed with the meat is excellent, and with a little care and taste may be made fit for any gentleman's table.

A NEW AND ECONOMICAL DISH FOR A FAMILY.—Having boiled down some bones and scrags of mutton, and strained them off the previous evening into a pan, so that in the morning the fat on the top is set quite hard, and about a quart of good stock left in the pan, get about two pounds of mutton chops, cut into six, cut off most of the fat, particularly if there are children in the family, for they only waste it when cooked. Chop it up small, mix it with the fat taken off the stock, which mix with about two pounds of flour, and make several small dumplings, which boil separate for twenty minutes; put into a stewpan the six chops, with two onions, some parsley chopped fine, a tablespoonful of salt, and a teaspoonful of pepper, and about three pounds of potatoes peeled; add to this the stock and a quart of water, boil well until the potatoes are well done, turn them out into a tureen, and serve with the dumplings in a separate dish.

LIVER-AND-BACON CAKE FOR TEA.—Take what liver and bacon remain from dinner, and chop them up into small dice of about a quarter-of-an-inch square. Make some plain water tea-cakes in the usual way, roll out some thin cakes, and on the top of one place the liver and bacon, then wet it, and cover it with another cake; they will take about a quarter-of-an-hour baking, and make a very nice relish for tea. In Yorkshire it is the common custom to have ham cakes made in the same way.

LIVER AND BACON.—Perhaps of all the dishes that are cooked in private families there are none more spoilt than this, and to that may be attributed the cause of its not being so great a favourite as it ought to be. To two pounds of liver have one pound of bacon. Cut the bacon into slices a quarter-of-an-inch thick; fry them gently; then have the liver already cut in slices, slant-ways, half-an-inch thick, upon which has been sprinkled, for one hour before cooking, some chopped parsley and a small onion chopped fine, a very little nutmeg, pepper, and salt; when the fat is very hot put in the liver, turn it over very often, and cook as quickly as possible, by which the liver will be quite light and very digestible; it should be served as quickly as possible. When the liver is done, pour some flour and water into the frying-pan until it forms a thick gravy, and strain it over the liver, and serve. The great point is the quickness with which the liver is done.

Liver and bacon, being without bone, is the most economical dish that can be cooked for a family. Next this is an ox-heart, the remains of which make an excellent tea-cake, like the liver and bacon.

LAMB'S FRY.—This is the time of the year when the most extravagant of all joints that come to the table now makes its appearance, that is, a fore-quarter of lamb, and, consequently, lamb's fry is to be obtained cheap. To do it properly is an expensive process, and one that cannot be practised in a private house of moderate means. That process is to have a little nice white sauce, boil the fry in it for five minutes, take it out and drain, dip each piece into batter as if for fritters, have ready a pan having four inches deep of boiling fat, put the pieces of fry into it until done a nice colour, and serve with fried parsley as a garnish. Raw potatoes, cut into very thin slices and fried, are a good accompaniment, and the white sauce may be served up separate. It may be done in a more economical way like the liver and bacon, as above.

Or have some batter made as for a Yorkshire pudding, which place in a tin, put the fry in it, and bake until the pudding is done. Or have some melted butter, made with the addition of a little milk, put in the fry, with some pepper,

salt, nutmeg, a blade of mace, and boil ten minutes; remove it from the fire, and thicken it with the yolk of an egg, and serve.

Lamb's head and mince is also excellent done in this way.

The remains of lamb's fry and fried potatoes can be made into a nice *omelette* for supper. Mince the fry and potatoes, and place them into the oven to warm, then beat up three eggs, put them into an omelette pan, and add the fry, and proceed as for the usual omelette.

LAMB'S FRY AND CAULIFLOWER.—This is a very nice and good-looking dish for supper. The fry should be cooked in some white sauce in the first instance. The cauliflower removed from the stock and boiled, the fry should then be put into the middle of a dish, and the cauliflower round it; the white sauce should be thick, and poured over the whole; then throw some bread crumbs on the top, put it in the oven for ten minutes, take it out, add a few more bread crumbs, and brown with a red-hot shovel. None of these dishes should be highly seasoned.—W.

QUERIES AND ANSWERS.

GARDENING.

BLIND FOR CONSERVATORY.

"An Old Subscriber wishes to know what is the best description of blind for a conservatory forty feet long by sixteen feet wide, with a span-roof. Also, the probable cost, and of whom it is to be obtained."

[We presume you mean to shade both sides. Open bunting would do best. Stoutish unbleached calico would answer well, such as you may obtain for 6d. or 7d. the running yard, and nearly two yards wide. Any person at all conversant with hothouses would fix it. The simplest mode to do so, if you fix it yourself, would be to get two round poles, each two inches in diameter, and twenty-one feet in length, for each side of the roof; that is, if both sides want shading; four poles in all. The two poles will thus be the length of the roof, and a foot over at each end. These two ends will do for wrapping a piece of rope round more than double the width of the roof. Prepare your cloth in suitable width, and in two pieces for each side, tack one side of the cloth securely to the ridge-board, and the other side to the pole, fasten the rope to the end of the pole, and then wind it round it, and then, when you pull the rope, the pole will mount the rope, and to keep it there you must fasten the string by a loop to a pin or a large nail in the wall. Proceed the same at the other end, and you will shade or unshade one side. When the shade is to be let down, unfasten the loop of the string from the hold-fast, and hold the rope so tight, and yet yielding, as will allow the pole with the blind attached to come slowly down the roof. You may have a wheel or a groove at the end of the pole, if it so please you, for holding the rounds of rope. You could also easily have the forty feet in one length, but then you would require more roping and pulley lines, &c., to manage it. The mode proposed will be the simplest and cheapest.]

RAISING THE ROOTS OF OLD VINES.

"I have a vinery of nine rafters, and the Vines have been planted about fifteen years. I am going to reconstruct the bed, the roots being buried something like a yard deep in a very heavy, dark soil, and, consequently, the Vines do anything but what they ought. Will the present Vines bear replanting, or had I better set young ones; and at what time ought the operation to be performed? I do not intend to remodel the whole in one year, but try three rafters at a time.—A SUBSCRIBER FROM THE COMMENCEMENT."

[We have taken up old Vines and replanted them with great advantage, but the labour is great, and young Vines, properly treated, will soon overtake them. In a late number you will see a good deal on Vines that will suit you. As you are wisely only going to renovate a part at a time, we would not advise you to trouble yourself with the old Vines,

but to clear them out at once; and now, if there is nothing on them worth waiting for, drain the place properly, place plenty of rubble below, and give them from eighteen inches to two feet of good soil, and plant young Vines as soon as the border is likely to have settled equally. In doing this work, there is no occasion to fill all the border space at once. A space from three to four feet in width will be sufficient for the first year. In doing this work some of our best gardeners add annually to the width of the border for several years, and the plan has two advantages—the plants, in a measure, are just receiving repottings, and the renovation is not so much felt, being spread over some time.]

MATERIAL FOR STANDING POTS UPON.—CLIMBING SCARLET GERANIUM.—STRIKING CUTTINGS.

"1. I have a cold frame standing in a yard paved with bricks: what shall I put in it for the plants to stand on? Ashes are recommended to me, but I have an idea of *tan*, as being cleaner and warmer, and available hereafter.

"2. The name of a good *climbing Scarlet Geranium* for the back of a greenhouse, unheated.

"3. A simple plan (when one has no heat) for *striking cuttings* of *Geraniums*, *Fuchsias*, &c.—H. S."

[1. Many would be satisfied with the bricks. We would prefer sand for cleanliness to either *tan* or ashes. If you use *tan* in such a place, it must be in small quantities. Any heat for cold frame plants would be injurious rather than otherwise. The advantage of cinders (rough ones, with the dust excluded), and also of small clean pebbles, is that the air circulates among them, and thus all about the pot. Do not use sawdust, as some friends are doing. It fills the hole in the pot. If the plants are plunged, partly even, you will be more independent of extra care in watering.

2. We do not know one but what the frost would be apt to kill in winter, in an unheated structure. We have seen the *Giant Scarlet* grow very well in such a place, and flower magnificently, being kept so dry as almost to shrivel in winter; but a small chimney went through one side of the house, from a sort of kitchen, always used in winter.

3. All the hardier *Geraniums* will now strike in sandy soil in the open air. Smaller and tender ones had better be placed under a hand-light or glass of any sort, so as to be kept close, and shaded during the day in sunshine, and air given at evenings and night, and the shade removed when the sun is not bright. *Fuchsias* will do well now under similar treatment. No cold frame or greenhouse plant requires artificial heat to strike them now. The initiated, by preparing the plants, would only get the cuttings to strike a little sooner. We presume you know all about making the cuttings.]

SOWING ROSE SEEDS.

"A Constant Subscriber has for several years sown *Rose seeds*, from which none ever came up but two Scotch *Roses*, which were two years before they came up at all; and in one of THE COTTAGE GARDENER numbers she sees *Rose seeds* sown very early in spring, and coming up in a few months. Where is the cause of failure?

"Will you inform her, also, if leaf-mould and a little sand is too rich for sowing *Geranium*, *Verbena*, and *Pentstemon* seeds in for this year? She has been most unfortunate in her seeds."

[In all such cases, the old round-about way is the safest, though not the quickest. As soon as the *Rose*-hips are so ripe as to begin to decay—but no sooner—say, towards the middle of November, gather them, and put each kind in a flower-pot, No. 32, and with so much earth that no two hips will touch; then plunge the pots in the garden anywhere, but not deeper than that you may see the rims, so that no one may disturb them in mistake. Have a seed-bed ready for them by the middle of next April in the kitchen-garden, and any light, common soil will do. Then turn out the soil, seed-hips and all, out of the first pot, on a piece of brown-paper, and rub them well between the palms of the hands, and sow seeds and earth in the bed, cover it one half-inch

deep, and so on with the rest. In very hot weather, shade with some boughs, and the seedlings will come up in hundreds, if the seed was impregnated and ripe; but some will not come till next year. The reason why so many *Rose seeds* are lost is, that they are gathered too soon.

If the seeds were in pots, there should be no leaf-mould. Good gardeners can do no more than barely save the young fry amid rotten vegetable matter. We sow all kinds of seeds in clean, sandy loam, except *Pinuses*—they want no sand.]

JASMINE NOT FLOWERING.

"I have a common white *Jasmine* planted against the west wall of my house, which has been trained fan-fashion, the shoots being nailed in about nine inches apart, and from each of these shoots there are a great number of vigorous side-shoots, many of them from a foot to eighteen inches long. But although the plant looks so well, there is not the least sign of bloom upon it. Will you, therefore, kindly inform me as to the best method of treating it to induce it to bloom? It is about ten feet high and eleven feet broad.—A CONSTANT READER."

[The common white *Jasmine*, and the coarse yellow *Revolutum* *Jasmine*, like the rest of them, produce the flowers at the end of *little twiggy side-branches*, and the very long shoots and the strong ones from any part of the plant never flower at all; but if there is room for them they will make little side-branches next year, which will flower. When a *Jasmine* of any kind is so strong as not to make a *profusion* of little side-shoots, but a host of strong branches, it will not flower well. Instead of root-pruning them, however, to cause the branches to be weak and less numerous, the better way is to take up the plant very carefully at the end of October, and then cut clean out three or four of the strongest roots, and save all the rest at full length; plant again in the same place, and spread out the roots exactly six inches below the surface, and the bloom of the white ones will surprise you next summer. The yellow ones will not be so good till the second year; but with a view of covering a wall with fine healthy foliage, no one plants a yellow *Jasmine* against a dwelling-house now-a-days. The *Escallonia macrantha* is now used in place of yellow *Jasmine*. A white *Jasmine* twenty years old may be transplanted as safely as an Apple-tree eight years from the graft. Meantime, cut out a good many of the strongest shoots of this season's growth, and cut back the next strongest to half their length; but let the end shoots extend as far and fast as the roots will push them, and at the taking up cut them also to half the length; for we take it for granted that you will do us the favour to remove and reset this beautiful *Jasmine*, in order to flower it so as to be a credit to us all.]

TO CORRESPONDENTS.

PEAS MILDEWED (A. B.).—Your *Daniel O'Rourke* Peas, now suffering from mildew, probably would not have been so attacked if you had put some manure on the surface of the soil over their roots. *Cucumbers* producing only male blossoms usually are growing in a temperature too low for their leaves. Trapping is the only mode of destroying *Eurwigs*. We have great doubts whether they are not the gardener's friend by destroying *Aphides*, &c.

GLAZING (Clericus).—Mr. Lane and, we believe, Mr. Rivers use sash-bars as rafters, three inches and a half deep and two inches and a half wide, and there is a half-inch space cut out on each side for the glass to rest upon. These are for squares twenty inches wide and twelve inches deep. If you place yours fourteen inches apart, and the width is only ten feet, you may do with less sash-bars. You may have your glass at that width, and a foot or so deep, at from 3d. to 5d. the foot, 16 oz. weight to the foot. At that weight your glass will be about three quarters of an eighth of an inch thick. Glass from 21 oz. to 24 oz. to the foot is about one-eighth of an inch thick. If the glass was more than 21 ozs. your sash-bars must be stronger. There is no necessity for a groove below the putty, nor yet for a coping to the bar, though you might cut the bars with a mushroom-head coping, and a groove beneath for the putty and glass.

GRUBS (I.—Altringham).—It is impossible to say what they are from your description. Lime-water or ammoniacal gas-liquor might destroy them. Send us specimens in a box with a little moist earth.

SHANKING IN GRAPES (I. W. M.).—We believe that this arises from the roots of the Vine not being sufficiently active to supply the fast growth of the grapes. This want of activity may arise from various

causes. The above-ground parts of the Vine are, perhaps, kept too hot, and the roots too cold.

SEEDS OF *PICEA NOBILIS*.—G. A. says, "We have a beautiful *Picea nobilis*, that has about twenty cones on it, six inches long already. Could you inform me whether there have been any cones that have matured their seed in this country? We had two cones last year on this same tree, but the seeds were imperfect."—We shall be obliged by any correspondent informing us if this *Pinus* has ripened seeds in these kingdoms.

NAMES OF PLANTS (*Mus*).—*Claytonia perfoliata*; it must have strayed from some garden. (W. X. W.).—*Reseda alba*, White Mignonette, a biennial. (*Subscriber*).—1. *Geranium angulatum*. 2. *G. striatum*. 3. Seems to be a small Turban Ranunculus. 4. *Veronica chamaedrys*, or Germander Speedwell. Your *Pelargonium leaf* shows that there is something very wrong at the root. It is excessively diseased. (*Shugpat*).—1. Apparently a young frond of *Aspidium acuminatum*. 2. *Aspidium recurvum*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries closed June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st. Sec., C. Lawson, Esq., Anerley. Entries close July 9th.

BRISTOL. June 25th and 26th. Sec. Robert Hillhouse Bush, Litfield House, Clifton, Bristol.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. 27th. Nov. Sec. E. Trinder, Esq., Cirencester.

HULL AND EAST RIDING. At Hull, June 25th. Sec., B. L. Wells, Esq., 23, Bishop Lane, Hull. Entries close June 18th.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

PRESBOT. July 8th. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

WHITBY. July 16th and 17th. Sec. S. Burn, Esq., 1, East Terrace, Whitby. Entries close June 30th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

THE WINDSOR POULTRY SHOW.

(From a Correspondent.)

"ALL the birds to be in Windsor on the night of Monday, the 2nd of June," was a perfectly clear announcement from the Windsor Committee; great surprise was, therefore, naturally expressed when sundry hampers with birds for the Exhibition were admitted at ten o'clock on the morning of the following day. A protest was immediately given in to the Committee, but by them rejected on the ground of their discretionary power being sufficient to authorise this deviation from their rules.

Secretaries and Committees, indeed, have frequently just cause to complain of the infraction of their rules by exhibitors; but probably on no previous occasion have a Committee been found thus setting aside their own regulations, and, in fact, nullifying their subsequent proceedings.

Now, a knowledge of the benefit that is derived from Poultry Shows calls loudly for some assurance that such things may not occur again; for, in the putting aside of one rule definitely set forth, grave apprehensions may reasonably be founded, that others may be as little regarded, when such a change may be desired on the part of the officials.

But, in another light, this error bears most unfairly on exhibitors. Had the exhibitors, for example, been generally permitted to send in their birds on the Tuesday morning, the night trains would have brought very many of those that an observance of the rules consigned to the greater fatigue of travelling by day, and being peened up fourteen or sixteen hours before their competitors.

The winners of the Cup in the Spanish class, it is said, thus benefited by the unwise relaxation of the regulations, while those that took the second and third prizes ex-

perienced the disadvantage that has been alluded to. It is by no means probable, indeed, that under other circumstances their relative places on the prize-list would have undergone any change, since the decision of the Judges here, as elsewhere, in this Exhibition, was eminently just and fair. Had a different selection, however, been made from the birds in the second and third Spanish pens, a hard fight must, at any rate, have ensued before the victory would have been achieved. This seemed to be the general opinion, but future competition may afford opportunities for judging of its correctness. Mr. Henry's name was looked for as a competitor in this class, but he seems disposed to rest satisfied with his Birmingham victory.

The Windsor Committee deserve the thanks of exhibitors for many excellent arrangements, but their pens were hardly of sufficient size for the larger fowls; and, in arranging hampers and baskets when placed beneath the birds sent in them, care should be taken that the owner's name and address should not be visible. It is always prudent to avoid the slightest ground for subsequent discussion.

THE POULTRY AT THE PARIS EXHIBITION.

THE extension of Poultry Shows to France is in itself an event, and the connection in which they are placed to agriculture is an evidence of a correct appreciation of their advantages to those engaged in that pursuit.

Success is always the result of combination, and no man was ever distinguished or pre-eminent in any calling who was unmindful of the minutiae of it.

Poultry will never compete in importance with the quadrupeds, but it is not the less a valuable help. Our neighbours across the channel are wiser than ourselves in this respect. Their fowls are made to produce more. Let us be understood. They adopt no process to make them lay, but they pay more attention to them, and to their capabilities of making money. Men who farm eight to twelve hundred acres make it a business to rear fowls and turkeys, and to produce eggs in order to supply England. Belgium, the Rhenish provinces, and even Sardinia are visited by men whose calling it is to collect eggs for this country. On a large farm, the poultry should never pay less than £40 per year. It is not a large sum, but it is the equivalent to the produce of a certain number of acres, or it will pay the rent of them. Again, poultry is an article of food, and those who are not closely connected with it have no idea of the amount annually expended upon it. It amounts to millions in the United Kingdom. No manure is stronger than that made by poultry. We felt it our duty to inquire among those who kept much of it, and the answer invariably was, that being mixed (for it was too strong to use by itself), it might be seen to an inch, by the superiority of the crop where it was put. Fowls in a farm-yard pick up and consume all the stray grains which unavoidably are thrown out, and make the same return as other stock. Our agricultural friends in France are more alive to its merits than our fellow-countrymen.

We have had poultry shows in England, till we have arrived as near perfection as possible in them; and it would be too much to expect that the second in Paris should not have some little details with which we could find fault. It would, however, be ungenerous, for although we have seen many poultry and many agricultural exhibitions, we have never seen one so well attended, or so well adapted to please the eye, as the Parisian. It has, in all its particulars, been well chronicled in the daily journals, so that we may confine ourselves to our own sphere—the poultry.

The pens, containing a goodly number of choice birds, sent from all parts of the United Kingdom, France, and its dependencies, were tastefully arranged in a circle, in the centre of which was the beautiful fountain that attracted so much attention during the Exhibition of 1855. It is composed of a group of splendid metal flowers, coloured after nature, and spouting water from their blossoms. In the basin in which it stands are several floating Water Lilies of the same materials, and looking like life. It was a great novelty to have birds attended to by a staff of guardians in cocked hats and green uniforms, and watched day and night by the ubiquitous *sergents de ville*.

The *Crève-cœurs*, the national fowls of France, were represented better in numbers than in quality, the first prize being withheld; hardly any of the pens were uniform in colour, the French amateurs not being better at matching their birds than their English brethren. It seems very doubtful whether the *Crève-cœur* will ever be well introduced here to take its stand at our shows, or in the yards of our agriculturists and amateurs, although the form of its body is admirably adapted for fattening and putting on a great deal of flesh, which is delicate and well-flavoured. It fats easily, and lays a great many eggs of large size. Against these good properties we have to place a constitution very ill-fitted for our climate, the beard and top-knot telling against it very much for a fowl that is to forage for its living in farm-yards, fields, and damp places. During the one very wet day of the show, these birds seemed to suffer more than any others. They are very subject to diseases of the eye, and for the table the greatest drawback is the uniform black leg.

In the *Cochins* there were many entries, comprising several very good pens. The first prize was taken by M. Vaissieres, with one of the best-shaped cocks we have ever seen, accompanied by four very good hens, but not worthy of their mate. These birds had the good fortune to be purchased by the Empress. The second, third, fourth, and fifth were taken by Mr. Baker, M. Berger, the Countess de Flahault, and Lord de Blaquiere. We were sorry to see unnoticed a pen of Cinnamonons of unusual size and symmetry, belonging to Mr. Punchard. These birds, however, were purchased for a good price soon after the opening of the show. The Whites were very good, the prizes going to Mr. Baker, the Countess de Flahault, Mr. Fowler, of Aylesbury, Messrs. Bruzeau and Desremonis. The Black Cochins do not appear in any numbers anywhere, and here the competition was very small, the prizes, of which only two were awarded, going to Mr. Baker and the Countess de Flahault. The Grouse and Partridge birds are evidently not understood in Paris, the first prize being given to a Cinnamon cock and Grouse hens, belonging to Mr. Baker, the second and third going to Mr. Punchard and Lord de Blaquiere. His lordship also took a prize for some Cuckoo Cochins of great size. M. Gerard also took a fifth prize for dark birds.

In the *Dorkings* the want of an English judge was sadly palpable. Mr. Loder took the first prize deservedly with a pen of splendid birds; the others were given to Messrs. Fowler, Philbrick, Baker, and Smith.

There was a very good collection of *Brahmas*, and the light-coloured birds are in France decidedly preferred to the dark ones. The prizes went to Messrs. Baker, Beaufils, Gerard, Libel, and Gaudin.

The *Spanish* were a poor class both in numbers and quality; the prizes went to Messrs. Vallée, Morton, Shaw, and Pilster; the hens in the latter gentleman's pen were worthy of a much higher place in the prize-list.

We were much struck with a *Brown-red Game Cock*, an English bird, and as fine a one as will be often seen; he was photographed during the show, but no one volunteered to handle him as he was very "malin." The other *Game* fowls did not appear at all to advantage. The *Hamburgs* are not admired much in France, and the birds shown were anything but first-rate.

There were some large white-bearded fowls called *Russian*, but looking much more like Malays; they attracted little attention except by their ugliness. The *Black Polands*, or, as they are called here, "Les Hollandaises," were not many in number, and we have seen better. The first prize was taken by M. Gerard, second by the Countess de Flahault, third and fourth by Messrs. Herewynn and Noome.

The Golden, Silver, Yellow, White, and other *Polands* called "Padoues," were deservedly much admired, for they were very handsome. The first prize was taken by the Countess de Flahault, the others went to Messrs. Gerard, Vaissieres, Verger, and Deshameux.

A prize was taken by M. Gerard for a pen of fowls called *Houdans*. They are principally black and white in colour, and top-knotted. They seem to attain great size, but are not handsome.

Having heard so much of the "*Poularde du Mans*," we were much disappointed in the birds shown in this class, they having but little to distinguish them from a cross-bred,

common-looking fowl, something like a Poland in form, but much larger. The first prize for *Bantams* went to a splendid set of Silver-laced, the property, we believe, of the Jardins des Plantes. The second was taken by the Hon. H. W. Vernon for a pen of three very showy Black ones in capital condition; the other prizes in this class were withheld. In the class which always puzzles our English judges, viz., the "various," the prizes were awarded to Messrs. Gerard, Warwick, Bereus, and Marçais.

In coming to the class for *Turkeys*, we were surprised and pleased to see the first prize taken by an Englishman. Mr. Warwick, of Colchester, was successful with a very fine pen of birds; Messrs. Gerard, Fontaine, and Corhieu carrying off the others. Those for Toulouse *Geese* were taken by Messrs. Gerard, Dureau, and Beaufils; the latter for a pen of three very fine young birds. The *Geese* of the other varieties (and they were many), were not noticed. In *Aylesbury Ducks* the competition was large, and some very fine birds shown. The first prize went to Mr. Baily, of London, and the second to Mr. Botham, of Slough. To an amateur, the greatest disappointment would have been the *Rouen Duck* class. There was not a bird shown that would not have been rejected at an English exhibition. The first prize was withheld, and the second and third went to Messrs. Gerard and Cochin. For the Ducks of any other variety, the Countess de Flahault took a first prize for a pen of *Buenos Ayrean*, beating three capital birds sent by Mr. Punchard, jun., of Blunt Hall.

The show of *Pigeons* was very indifferent indeed, and the varieties badly represented. With the exception of a few bad Runts, there were only a collection of those Dresden and German varieties that all so nearly resemble one another. There were, as at most shows, a few pairs of *Guinea Fowls*, looking very miserable indeed, and a few *Pea Fowls*. In the early part of the exhibition there was a large show of *Pheasants*; but one of the largest contributors, not knowing the distinction between the eggs laid by his own birds and those of his neighbours, he himself was requested to retire, and all his birds were immediately returned to him. The only prize awarded here was to Mr. Baker, for a pair of *Chinese Ring Pheasants*.

Many birds were sold at high prices by private contract, but the auction was a mistake—no one knew how, when, or where it was to take place, and, consequently, there were literally no bidders.

In conclusion, we cannot sufficiently admire the liberal and cordial manner in which exhibitors and their stock were treated, and render our best thanks to M. le Ministre de l'Agriculture and his effective staff, particularly to M. Radouaut, the chief of this department.

THE RING DOVE A ROBBER.

IN your volume for this year, at page 41, Mr. Brent speaks of the little harm comparatively done by the Ring Doves to the crops of grain, &c. I beg to send you an extract on this point from my "Note Book."

"April 17, 1841.—Ring Dove. I shot one of these birds to-day, and took eighty-seven of the common horse-beans from its crop, quite whole. This was its evening meal. Now, supposing it took the same quantity in the morning, the whole number it would take in one day, would be 174, and the pair of birds would devour daily 348. What a prospect for the farmers to have a flight of these in their neighbourhood! There was nothing else in its crop but a few particles of sand and minute shells."

If you think the above worth noticing, it is at your service.

I see a correspondent says he has "no difficulty in raising *Linum grandiflorum*," i.e. the crimson one. Perhaps he will tell me, and all the great gardeners, how he does it. It has beaten Beaton. I suspect he has got the common blue *Linum grandiflorum*, which any one can raise. I hope he will not be disappointed when it flowers.—A. R.

HAMBURGHS *versus* COCHINS.

I SHOULD be much wanting in gratitude were I not to express my thanks for your kind advice in the case of my disordered poultry. The sick hen, after being ill a fortnight, and the food in her crop a putrid mass, after the second dose of gin, became convalescent, has been laying three weeks, and is now broody.

I take a great interest in poultry, and as such, am delighted with the spirit of the *Hamburgh v. Cochin* controversy. My opinion is with "Felix Rabbit." When I had an unlimited range, I gave every variety of fowl a trial, and have no hesitation in saying, that for general good qualities Cochins are unsurpassable. I do not keep any other variety, nor is it my intention to do so. *Hamburghs* are very weak in two or three respects; they will not bear confinement, and are very subject to disease, and as winter layers they are very poor indeed. The eggs are very small, so much so, that the dealers would not buy them of me, unless I gave twenty-five to the score. I should not have had any, but a friend sent me three Silver-pencilled pullets, early hatched, and from a first-rate strain. The first thing they did was to become ill with the roup, and infect all my other fowls. However, they got better, and when they did lay, which was in April, laid such small eggs, and so few in number, that I was truly thankful to get rid of them. The one failing alone, their extreme delicacy, is quite enough to exclude them from many situations. In addition, their wild habits, roaming about on the buildings, and tearing all the thatch off the ricks, annoyed me very much. They had unlimited food and range, and though they may answer with some, as the bridge carries me over, so I must speak. Many urge that they are so pretty. I admit it; so is a Peacock, and about as mischievous as they are, never happier than when buried in the flower-beds, eating off all the buds; but I, for one, do not, or, in other words, cannot afford to keep birds with no other quality than beauty to recommend them.—HENRICUS.

[Any of the parties you mention, or Mr. Punchard, Blunt's Hall, Haverhill, Suffolk, can supply you with excellent Partridge-coloured Cochin-China fowls. If we wished to be purchasers, we should attend some Poultry Show and select a pen.]

WHITE-LOBED HAMBURGHES.

I ONCE knew a schoolmaster who appeared to believe a boy was sent to school only to learn writing. "Sir," said a parent, "my son has spelt holidays with two l's." "He is careless, my dear friend," quoth the schoolmaster; "but is not the letter beautifully written?" "The last letter I received from my son is not punctuated, and capitals abound most ignorantly," said a second. "I can almost pardon it," said the schoolmaster, "he makes them so well. Writing, Sir, is the thing; these trifles are easily acquired afterwards."

I was thinking of this when viewing the Windsor Show. I was looking at the *Hambro's*. "Look here," said a spectator, and, as I imagine, an exhibitor; "these birds ought to have had the prize: look at their white ear-lobes." "Are they not deficient in spangling?" said I. "They may be," was the answer; "but look at their white ear-lobes." "Is not the comb of one of the hens falling over, and a little faulty in the point?" "It may be," said he; "but look at the ear-lobes."

The schoolmaster again, thought I; but writing does not form an education, nor a white ear-lobe a prize pen.—W.

OUR LETTER BOX.

PRIZES FOR HAMBURGHES AT WINDSOR (*An Eye-witness*).—You will see from the letter of "A Correspondent" that the prizes at Windsor were perfectly satisfactory to him. Now, that correspondent is one of the best judges of poultry in England, he did not exhibit at Windsor, and is in no way connected with the Judges who officiated. White ear-

lobes in *Hamburghs* must be accompanied by other essentials to entitle them to a prize.

ANERLEY SHOW.—"On reading the correspondence between Captain Hornby and the Secretary of the Windsor Show, I, at first, felt inclined to doubt whether Mr. Chamberlain could have written so weak a reply to so temperate a remonstrance. However, my chief business and anxiety are with the future. At Anerley Show, which is advertised for July 25th and following days, amongst the rules I read as follows:—'*Birds will be received on Saturday, 26th July. None can be received after that day.*' Is this rule to be strictly adhered to? or, as at Windsor, is the committee to have the power of allowing exhibitors, who live near London, to send their birds on the morning of Monday, the 28th? I who live at a distance, and had intended to send good birds to Anerley, would certainly not do so if competitors in the neighbourhood might defer sending their specimens until the Monday morning.—FAIR PLAY." [One of our best known exhibitors.—ED.]

LONDON MARKETS.—JUNE 23RD.

COVENT GARDEN.

The supply of all out-door produce is now heavy, and most of the rough description of goods a slower sale. Continental consignments of *Vegetables* now limited to *Carrots* and a few *Beans*; but there is still, however, a large quantity of French *Cherries* to be met with, consisting of several varieties. Hothouse production plentiful, comprising *Pines*, *Grapes*, *Cherries*, *Melons*, *Figs*, and *Peaches* and *Nectarines*, all of excellent quality.

FRUIT.		Parsnips, per doz....		6d. to 9d.
Apples, kitchen, per bushel.....	8s. to 12s.	Beet, per doz.....	1s. to 1s 6d.	
" dessert	12s. ,, 20s.	Potatoes, per cwt. ..	3s. to 6s.	
Pears, per dozen ...	1s. ,, 3s.	" Frame, per lb. 6d. ,,	6d.	
Peaches, per doz.	10s. ,, 20s.	" New, per lb. ..	2d. ,, 4d.	
Nectarines, do.	10s. ,, 20s.	Onions, Y'ng, per b'ch. 4d. ,,	6d.	
Pine-apples, per lb. ...	6s. ,, 9s.	" Old, per bushel 5s. ,,	7s.	
Jersey Grapes, per lb. 3s. ,,	7s.	Turnips, per bunch..	9d. ,, 1s.	
Strawberries, per lb. 1s. ,,	3s.	Leeks, per bunch	2d. ,, 3d.	
Hothouse ditto, ditto 4s. ,,	8s.	Garlic, per lb.	6d. ,, 8d.	
Foreign Melons, each 3s. ,,	6s.	Horseradish, per bundle	1s. 6d. to 2s. 6d.	
French Cherries, per lb. 6d. ,,	3s.	Shallots, per lb.	6d. to 1s.	
Oranges, per 100	4s. ,, 10s.	Lettuce, Cos, each ...	6d. ,, 8d.	
Seville Oranges, do... 6s. ,,	12s.	" Cabbage per doz. 2d. ,,	3d.	
Lemons	6s. ,, 12s.	Endive, per score ...	1s. 6d. ,, 2s.	
Almonds, per lb.	2s. ,, —s.	Celery, per bunch....	9d. to 1s. 6d.	
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Radishes, Turnip, per dozen bunches ...	— to 6d.	
" Cohs, ditto ..	80s. ,, 100s.	Water Cresses, ditto ..	6d. ,, 9d.	
" Barcelona, per bushel.....	20s. ,, 22s.	Small Salad, per punnet.....	2d. ,, 3d.	
Nuts, Brazil, ditto..	12s. ,, 14s.	Artichokes, per lb.	— ,, 2d.	
Walnuts, per 1000 ..	9s. ,, 12s.	Asparagus, per bdl....	3s. ,, 5s.	
Chestnuts, per bushel 15s. ,,	24s.	Sea-kale, per punnet ..	— ,, —	
VEGETABLES.		Rhubarb, per bundle 3d. ,,	6d.	
Cabbages, per doz. 1s. to 1s. 6d.		Cucumbers, each.....	4d. ,, 6d.	
" Red, per doz. 2s. to 4s.		Mushrooms, per pot 1s. 6d. ,,	2s.	
Cauliflowers, each ...	9d. ,, 1s.	HERBS.		
Brocoli, per bale	3d. ,, 6d.	Basil, per bunch	4d. to 6d.	
Savoy.....	1s. ,, 2s.	Marjoram, per bunch 4d. ,,	6d.	
Greens, per doz. bunch. 4s. ,,	6s.	Fennel, per bunch ..	2d. ,, 3d.	
Spinach, per sieve ..	— ,, 4s.	Savory, per bunch ...	2d. ,, 3d.	
French Peas, per bush. 6s. ,,	10s.	Thyme, per bunch ...	2d. ,, 3d.	
French Beans, per 100 1s. ,,	2s.	Parsley, per bunch ..	2d. ,, 3d.	
Carrots, per bunch ..	9d. ,, 1s.	Mint, per bunch	2d. ,, 4d.	
		Great Mint	6d. ,, 8d.	

POULTRY.

We have little change to notice; the market has seldom been better supplied, nor has the demand been more regular.

Large Fowls 6s. 6d. to 7s. 6d. each.	Quails	2s. 0d. to 2s. 3d. each.
Smaller do 4s. 6d. to 5s. 6d. ,,	Levrets ..	4s. 0d. to 4s. 6d. ,,
Chickens ..	Pigeons	9d. to 0s. 10d. ,,
Goslings.....	Rabbits	1s. 6d. to 0s. 0d. ,,
Ducklings 3s. 6d. to 4s. 0d. ,,	Wild Ditto ..	10d. to 1s. 0d. ,,
Guinea Fowl 10s. 0d. to 0s. 0d. ,,	Dottrell ...	0s. 0d. to 0s. 0d. ,,
Plover's Eggs, in bulk.....		0s. to 0s. 0d.

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WEEKLY CALENDAR.

D M	D W	JULY 1—7, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock lf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
1	TU	Lycæna Douglas.	30.163—30.161	78—60	S.W.	—	49 a 3	17 a 8	2m10	29	3 33	183
2	W	Lycæna Argus.	30.193—30.153	78—57	S.W.	01	50	18	sets.	30	3 44	184
3	TH	Lycæna Idas.	30.181—30.082	79—56	N.	—	51	17	9 a 45	1	3 55	185
4	F	Lycæna Artaxerxes.	30.191—30.100	77—37	N.	—	51	17	10 10	2	4 6	186
5	S	Lycæna Alsus.	30.121—30.038	81—38	N.E.	—	52	17	10 27	3	4 17	187
6	SUN	7 SUNDAY AFTER TRINITY.	30.045—30.027	77—44	W.	—	53	16	10 41	4	4 27	188
7	M	Hesperia Sylvanus.	30.079—30.064	74—50	E.	—	54	16	10 52	5	4 37	189

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 74.9°, and 52.4°, respectively. The greatest heat, 97°, occurred on the 5th, in 1852; and the lowest cold, 37° on the 1st, in 1837. During the period 109 days were fine, and on 87 rain fell.

HYMENOPHYLLUM WILSONI.



THIS owes its specific name to being first distinguished from *Hymenophyllum Tunbridgense* by Mr. W. Wilson. It is called *H. unilaterale* by some botanists, in allusion to the lobes of the leaflets being on one side. We believe it to be the variety of *H. Tunbridgense* described by Bolton as having its "fructification on naked fruit-stalks," and which he found on rocks under Dolbadern Castle, near the lake of Llanberris, and on the rock called Foal-foot, on Ingleborough, in Yorkshire.

Root thread-like, brown, slightly scaly, creeping, and producing a few fibrous rootlets. Fronds from one to three inches high; stalk stiff, smooth, round, winged at

the top. Leaflets clothe two-thirds of the stalk, dark green, alternate, bent-back, lobes curved downwards, and spreading horizontally rather than vertically as they do in *H. Tunbridgense*; lobes oblong-oval, sharply toothed, and on the upper side of the leaflet only. Fructification is placed as in *H. Tunbridgense*, but unlike that is stalked; its outer case (*involucre*) is egg-shaped, with swollen convex valves meeting at their edges. The fructification curves forward in a direction opposite to that in which the lobes of the leaflets are curved.

In *England* it has been found near the waterfall above Ambleside; at Black Rocks of Great End, in the Scawfell Range, and at Scale Force near Buttermere; and at Greenfield near Saddleworth, and near Silverdale. In *Wales* on Snowdon, near Llanberris Pass, and on the adjacent mountains, especially near Tŷll Du, and on high rocks about Nant Phrancon, and on rocks near the Rhydol at a plank over a gulf of the river Pont Bren. In *Scotland* at Finlarig Burn, near Killin, Perthshire, and in Argyshire. In *Ireland* at Killarney, Shannafolia Mountains, Kerry Mountains, and Connamara.—(*Francis's British Ferns.*)

Mr. Reeve, writing to us of its culture, says, "The *Hymenophyllum Wilsoni* is very much like the *Tunbridgense*, but of larger growth and stronger habit. Each of the species thrives remarkably well under the treatment directed for the latter; but *H. Wilsoni* is not adapted for artificial rockwork, as a glass of any kind continually kept upon such a structure looks very unnatural; and as it could not be cultivated thereon with any certain success without a glass covering of some kind, it had better be withheld from rockwork altogether. Each of the species thrives remarkably well in the stove or greenhouse, pit or close frame; but whichever situation may be chosen, the plants must be protected from sunshine. They are readily increased by division, by carefully arranging the small pieces on the surface of the compost directed for *H. Tunbridgense*. By keeping the whole close, moist, and warm for a short time, the plants will very soon establish themselves."

HORTICULTURAL SOCIETY OF LONDON.—

JUNE 24TH.

THE course we have persisted in recommending—the course dictated by common sense—is likely to be adopted by this Society. The men of business, and of good Eng-

lish minds, who have lately been joined to the Council, have prevailed with their associates to act as if a Horticultural Society is occupied more beneficially by instituting cultural experiments in its own garden, by demonstrating how plants and fruits ought to be grown for the benefit of the whole Gardening community, rather than as if it were an Institution where a favoured few might obtain rare plants, and a few old gentlemen resident in and near London might be lectured once a month in Regent Street.

Mr. Beaton writes as fellows of the Society's Meeting, on the 24th of June:—

“The glories of Chiswick’ are *not* ‘doomed,’ nor anything like it; they are only under a cloud, thanks to the ‘new blood’ by which the Council has been invigorated. The Council of this Society have been ‘a family circle’ so long that, with all the money in the world, they must have come to a dead lock sooner or later, and with what little money they had lately, they worked in the most injudicious manner, and as they do who think everything is known and is correct within their family party. Who but gentlemen of weakened intellect would have sent to the mountains of Dalmatia, or Albania, or thereabouts, for a plant collector, and then say that it was not respectable to have anything to do with gardeners about the affairs of the garden, much less to trust them to go for seeds and plants to foreign parts?

“We have got rid of a good deal of that prejudice now gardeners have been grafted into the Council, and the first produce of this ‘new blood’ is the saving of the Chiswick Gardens; the scaring away of ignoble resolutions, and a very sensible, but lengthy report, in manuscript, from the Council, which, when stripped of the extraneous words, means this—‘We have all been of the same opinion from first to last—the garden is the bend of union after all—we must save it if we can; the house in Regent Street is too good for us under our circumstances; we must sell it, and pay off so much of the debt; perhaps we shall get free rooms from the Government, like other societies, who can lay no greater claim; then we want you to persuade your friends, who have subscribed between three and four thousand pounds, to hand over that sum to us to add to the price of the Regent Street house, and to go to clear off so much more of the debt, which is, in round numbers, ten thousand pounds. After paying all this, we have sanguine hopes of retaining the garden. At all events, it will be the very last thing we would bring to the hammer. But in case part of the garden must go, we want you to confirm to us the powers we already possess by our charter, namely, the power of giving timely notice to part with the garden, or a portion of it if necessary; but you may rely on it we shall not lose an inch of it if we can avoid it. After all that is settled, it will be time enough for us to consider among ourselves the best mode of proceeding for the future.’

“To all this we held up our hands with one consent, and parted as happy as jolly gardeners ought.”

PEACHES AND NECTARINES OUT-OF-DOORS.

ACCORDING to my ideas of good culture, most of the operations connected with Peach culture should be completed by Midsummer. How can success be expected if the trees are left smothered with unnecessary growth until that period? and how can any one expect well-ripened wood if such be the case? One of the most important practices, however, is the pinching in due time of gross shoots. This can scarcely be done too early: they need not be more than four inches in length when this is performed. This practice is equally applicable to young trees or these in full bearing. Some persons have affirmed that there is no need for pinching when the trees bear well; but this is not correct. Of

course, we do not expect much gross wood from trees performing hard duty; nevertheless, they are still, if healthy, liable to produce such, and should be handled accordingly. Indeed, in the latter case, the practice has a double effect, which is scarcely the case in young trees; it concerns the fruit of the present year quite as much as the welfare of the trees in future years.

As I consider it indispensable that every amateur gardener should well understand the mode in which this practice influences the trees, I will endeavour to explain it. Young Peach-trees are very apt to produce unequal wood; one or more riotous shoots not unfrequently threaten to destroy the balance of the whole tree. Of course, it will be here understood that what befits the Peach applies equally to the Nectarine. Now, the pinching back gross shoots in this case simply tends to throw part of the overweening power of these robbers—or rather, monopolisers—into the inferior shoots, or those which do not assume so much consequence. This gardeners term equalising the sap, or, in other words, sustaining a due proportion between the various members of which the tree above ground is composed.

In the case of pinching, as applied to trees in bearing, we have an extra feature to record and explain. Those who are in the least conversant with the habits of the Peach and Nectarine will have frequently observed that very commonly a tendency exists in the tree to produce coarse “breast shoots”—shoots springing with more luxuriance half-way up the branches than at the extremities. This carries a very anomalous appearance to those who have not spent much time, or exercised much close observation, as to the mode in which Nature works. The fact is, that under such circumstances, one or more causes may be adduced to account for it. The chief, however, seems to be, that the upper portion or extremity in trees of any age and bearing habits becomes much robbed of its sap by certain demands consequent on bearing. As a necessary consequence of the parts becoming drier, a sort of contraction, or shrinking of the vessels takes place, and thus less facility in receiving the ascending fluids, and, indeed, of reciprocating with the root and other portions of the tree. But the root, having acquired power, will not long be baffled; absorption proceeds, and the hitherto untaxed portions of the lower parts of the tree receive more life; these which were inferior speedily evince a desire to take a lower position, and hence the sudden, impulsive, and somewhat unexpected movement which occurs as to the matter in hand.

It so happens that in such cases, whatever tends to arrest the ascending sap before it can reach freely the extremities of the branches, tends in a like degree to rob the fruit at the extreme portion of their proper share of nourishment, and also to lower the energies of the branches in that quarter; hence the reason for so often “cutting back” in Peaches—sometimes whole branches.

These of our readers who care for these things will perceive what I mean. Such are my opinions, the result of many years’ experience; and if any man can prove them wrong, either by science or practice, or both, why, I shall heartily thank him, being ever desirous to lay in fresh facts, and to throw errors overboard, for they much impede the voyage of life.

Here I must observe, that in this, as in most other matters, a certain amount of caution is necessary. There are cases in which it is desirable to cover naked walls as speedily as possible. Here the pinching must be modified according to circumstances, having regard to the extent of walling to be covered. In such cases the luxuriant shoots may be left until about a foot in length before they are pinched. This will bring them to the end of June; and if pinched about that time, two pairs of side or lateral shoots may be counted on

from the side of each gross shoot. These may be suffered to ramble until nine inches in length, when their heads should be pinched, and they will ripen tolerably well, and may, in the succeeding training season, be laid in as permanent wood. I do not think that under any circumstances it is expedient to attempt to gain more than this in one season; but it may be here observed, that the gross shoot will produce another leader besides the two pairs at the sides; this may be allowed to ramble another foot, and then be pinched. Thus it will be seen that one gross shoot, properly handled, may be made to cover a considerable amount of wall in one season.

The disbudding, as it is termed, will have been looked well to, doubtless, by this time; and I recommend that a final handling of this kind be carried out in the end of June. My practice is to remove every shoot not required for the ensuing year. Of course, it is difficult to determine on *every* one; but I approach this principle as near as I can. Whenever any doubt exists in the mind of the operator as to whether a certain shoot, or shoots, should be removed, such may at once be retained, simply pinching off the point. At that period, when the fruit commences the last swelling towards ripening, say the last week in July, I commence pinching the wood in general. Now, this is not everybody's practice. Be that as it may, I have found immense benefit from it; indeed, how could it be otherwise? and I lay claim to be the originator of the plan as here explained. This pinching is best done at thrice; and if we say the first at the end of July, the second in the middle of August, and the third in the first week of September, we shall be as near the point, according to my idea of principles, as possible. I go over first and pinch all the very strongest shoots, be they where they may: those, of course, are not what I before termed the gross shoots; they were pinched or disbudded long before; they are the next in order as to strength. The second operation takes hold of a second series, and the third is of a similar character, only it may be noted, that the second is a much lighter duty than the first, and the third much lighter than the second. One thing must here be observed: I never pinch any shoots that are considered too weak, especially those in an inferior position towards the bottom of the trees; these are allowed to ramble to the end of the season unmolested.

R. ERRINGTON.

CRYSTAL PALACE.—JUNE 25TH.

A SULTRY, hot, hazy day, without wind or sun, was as favourable a day for an exhibition in the Crystal Palace as the managers can ever expect for a June Show. They made another arrangement of the exhibition stages for this Show, which is a still greater improvement than the last.

In the very centre of the building, where the cross stages met last May, there is now an immense circle, twelve yards in diameter, and five stages high, in the form of a great cone, which is flat enough on the top to hold a splendid tree of the Norfolk Island Pine in a box. The large collections of stove and greenhouse plants were staged up and down, and all round this central mount, as you might call it.

The key-note for the rest of the arrangement is struck from the centre of this central mount: after a wide passage, long straight stages run into the great transept, north and south. These stages were "high backed," so that plants could be arranged on both sides without being seen across. Orchids occupied one side of both these long stages, and Ferns the other side; then the east side and the west side of the north end of the transept, and the west side and east side of the south end,

were laid out in stages, amphitheatre-fashion, with all the ends rounded off from the centre, which had a very excellent effect.

On the left-hand side as you entered from the north end of the great transept stood the variegated and fine-leaved collections, the right being filled with Heaths. The left side of the south end was filled with collections of Pelargoniums, which were divided in the middle by a collection of Roses in pots (Mr. Lane's plants), the "rounded off" end being occupied with Azaleas, and the other "rounded off" end with Pelargoniums. This is the best hit that has yet been adopted to relieve the "awful reality" of a huge bank of florists' Pelargoniums. The stages for the Roses which divided these groups advanced circularly from the straight edge, and, with the "rounded off" ends, also advancing, threw back the parts for the Pelargoniums into great recesses. On the opposite side, or west side of the transept, the fancy Pelargoniums were similarly arranged in two great recesses, with Mr. Francis's Roses in pots dividing them; and the "rounded off" ends of this division were occupied with amateurs' Roses in pots, and with some of the smaller collections. Here, then, my idea of staging Pelargoniums for effect has been adopted successfully for the first time. Since 1852, I hammered in vain on the cast-iron hinges at Chiswick, and on the polished knockers at the Regent's Park, for this very change; but all the world over, the old Adam comes out whenever you propose improvements to any one of his children who may happen to be in authority at the time, and you must allow him or them a sufficient time to make believe that the real improvement is the offspring of their own free-will. Meantime, the "new blood" at Sydenham has stolen a march on the stolidity of the old stagers of plants, and the result is a most happy relief to the eye, which wearies on nothing so soon as on an endless bank of specimen Pelargoniums. Besides, to place another endless bank of fancy Pelargoniums before or behind the old ones seemed to me such an act of suicidal folly, that I often blessed the stars that the "force of circumstances" kept me from enjoying the pleasures and anxieties of a true florist.

On the whole the show of fruit and flowers was a good average one for June. The Messrs. Rollison, of Tooting, and the Messrs. Henderson, of the Wellington Road Nursery and of Pine-Apple Place, with some others of the older exhibitors, did not contribute on this occasion, and it fell to the lot of my next-door neighbours, the Messrs. Jackson and Son, of Kingston, to fill up their places with splendid collections of Ferns, Heaths, and variegated and fine-leaved plants, for which they very successfully competed.

Mr. May, gardener to J. Colyer Esq., of Dartford, was first, with his huge specimens, in the large collections of stove and greenhouse plants. Mr. Turner, of Slough, sweeps everything before him, now-a-days, in the Pelargonium classes, including seedlings. Orchids, Heaths, and the smaller collections, are more evenly balanced among a host of first-rate growers. Mr. Lune will soon have the field to himself in Roses, but will not listen to a word against his less fortunate rivals. The ladies will be delighted to hear that Mr. Rowland is at the top of the list of "private growers" of Roses.

To Mr. Veitch we look for the greatest novelties; but Mr. Glendinning is now pushing close on his heels in that line. Mr. Dobson is most praiseworthy in his efforts to keep up the laurels of Isleworth for seedling Pelargoniums; and Mr. Kiaghon has "come out" for beds and the French alliance. His *General Pelissier* was there in full uniform; his *Countess of Warwick* in silver lace and "fine purple," and his *Annie* in white, and all white; but his *Prim* is the most extraordinary seedling he ever raised. It is after the

blood of *Pelissier*, with footstalks to the large scarlet trusses, full eighteen inches long. *Prim* will appear above all the rest in the show-house, and his *Richmond Gem* is a new style of variegation altogether; the purple in the leaves of *Lee's Attraction*, and of the *Countess of Warwick*, is here set round a large light green centre, and is itself encompassed by a deep green border.

Mr. Veitch had another beautiful new bedder, called *Quercifolium floribundum*. This is not a true *quercifolium*, but an exact intermediate between the *quercifolium* and the *capitatum* section, best known as the *Unique* breed. It has a large truss, a large purplish-pink flower, with dark blotches on the upper petals; a compact, good grower for a bed, and an abundant bloomer. There was another kind of the same cross with it, which is not so promising; and he had another—a curious red one—with a dark blotch in every petal, each blotch running down into the eye. This is called *Belvidere*.

The Messrs. Lee had a lot of what seemed an excellent dwarf bedder of the plain-leaved scarlet breed, with large, dark scarlet flowers. This is named "*Stunning*," signifying that it is a "stunning good sort."

Then Mr. Turner had a collection of new seedling Pelargoniums, two of which—*Conspicuum* and *Spotted Gem*—are the first great improvements on the new French spotted class, which M. Gaius first introduced; they are, indeed, very showy, and will be much sought after. The *Spotted Gem* is the richest, but *Conspicuum* the showiest.

When I hailed the new French sorts, as offering a chance to the florist to get out of the eternal circle of *Cucullatum*, they thought I was daft; but see in these new forms what they have been brought to already, and then say what you think. Another of these seedlings, called *Viola*, is an exact perfection of *Lady Flora Hastings*, a lady's flower of the first water; but the prince of the batch is called the *Prince of Prussia*, the very opposite of His Royal Highness in looks, and the best of the high scarlet class of Pelargoniums, not forgetting *Phaeton* itself. The entire flower is bright scarlet except the dark blotch, which has a wide scarlet margin above; and another, called *King of Scarlets*, is a still brighter scarlet throughout except the deep dark spot. This is really the right direction. Keep in this strain, and neglect not that of *Sanspareil*, with the French spotted strain, and, depend upon it, the ladies will run after you for their new Geraniums.

Among Mr. Dobson's new seedlings, *Compactum*, and *Amethyst* and *Eclipse* are my best favourites. *Sunset*, and *Cardinal Ardens* (Beck), and *Alexander*, a new French dark red, are all good.

Of seedling *Calceolarias* there was one capital yellow shrubby bedder in Mr. Turner's lot, called *Goldfinder*. It is the next best to the *King of Yellows*, which is, perhaps, the best dwarf yellow shrubby bedder we have; another one, called *Pilot*, a brown sort, is as good as a brown *Calceolaria* need be. These were all the seedlings I noted down.

Real *New plants* were not numerous. Mr. Veitch showed his beautiful cross Rhododendron, *Princess Royal*, again this year, among "new" plants, which is against the law on such matters, if you recollect what I wrote about it last year from the Chiswick June Show, and how I extolled it as the first cross from *Javanicum* by *Jasminiflora*; also *Lapageria rosea*, trained on a parasol, with twenty flowers hanging down round the edges; a very curious species of *Thibaudia*, with Ilex-like leaves and drooping, speckled flowers; *Wartzia aurea*, a slender, yellow "everlasting"-like flower; a new *Aërides*, with a rich, crimson lip; a new *Hoya longifolia*, with excellent, long, narrow leaves; and another, more after the old Honey-plant, *carnosa*; but the most generally useful

of all his contributions, this time, was a new form of *Kalmia latifolia*, called *picta*. This is really a rich thing,—there are eight, or ten, or a dozen crimson spots in a circle inside the flower; a round dot, and a long blotch, as regularly as if done on purpose with the pen. Another most beautiful evergreen is a new small-leaved Myrtle, *Myrtus microphylla*. It ought to have been called *elegantissima*. It has the most elegant habit of all the evergreens, throwing out long, feathery branches, like the top of an elegant Palm, with only two rows of leaves on the sides of each, *pectinata*-like, only that the leaves, as in this order, are alternate. Mr. Veitch had also the lovely tree *Phlox* again, alias *Leptodactylon*; two fine *Wellingtonias*, or *Washingtonias*, as they say in America, and several others of his recent introductions.

Next to these stood Mr. Glendinning's novelties, the most important of which is a new hardy *Larch* from the North of China, with *Cephalotaxus*-like leaves, but more numerous, narrower, and of a different green, that bluish-green tint peculiar to the *Larch*. All the Pine collectors must run a race for this novelty. A new spiny *Citrus*, with a three-parted leaf, different from any of the tribe we know of; a new species of *Rhamnus*, from which the Chinese extract their peculiar green dye; and a new *Heath*, called after Mr. Spencer, *Spenceriana*, a cross between *depressa* and *hybrida*, which takes more after the latter.

To name or describe the plants in Lycopods, Ferns, Gloxinias, Achimenes, Roses, Pelargoniums, Calceolarias, Fuchsias, Azaleas, Everlastings, and the whole repetition of stove and greenhouse plants, would be as useless as tiresome. Mr. Lane showed a noble specimen of *Rhododendron Javanicum*. Cut Roses were numberless. Mr. Jackson, of Kingstou, had a beautiful new *Pentstemon*, purple and blue, and a fine white *Agapanthus* in bloom, with a noble seedling Mexican *Rhododendron*.

There was an excellent new form of *Coleus Blumei* in Mr. Veitch's variegated collection, called *pectinata*, the edges of the leaves being jagged into comb-like teeth. There was a Golden Chain Geranium among the variegated plants, and a collection of specimen plants of variegated Geraniums, and a large *Justicia* from Mr. Windsor, which were much admired; and the first collection of *Calceolarias* from J. Watson, Esq., Isleworth, was exceedingly well staged for effect, six in two rows from top to bottom; *Commander-in-Chief* and *Virago*, two dark ones, at two opposite corners; and two shades of yellow, *Purity* and *Golden Fleece*, at the other two corners, with *Maria* and *Duchess of Northumberland* opposite in the middle.

The "setting" of the Pelargoniums I have often given, and I could give them to-day were it not for want of room. Dr. Andry, in M. Gains' collection of French ones, was the showiest new florist Geranium there; then *Madame James Odier* and *Fue Follet*. *Sanspareil*, *Majestic*, *Carlos*, and *Royal Purple* were among the gayest of the gay banks of Pelargoniums.

A collection of cut blooms of a new race of half-tree *Paonies* from Mr. Salter, of Versailles Nursery, Hammersmith, was much admired; but of them and many other things I shall write more at length next week, and till then the *Fruit* must stand over with this remark—that I left a group of first-rate gardeners near the entrance, at five o'clock, waiting the arrival of the Duchess of Sutherland. All the gardeners seem to look on her Grace as the rest of us do on Her Majesty, for the whole talk was about Mr. Fleming getting eight fruit prizes for her that day.

D. BEATON.

HOUSE PLANTS THAT MAY BE IN BLOOM
IN JUNE.

From a press of matter, *May* has been passed; but the list given at p. 79 will suit that month as well as April; the plants blooming in either chiefly according to the treatment as respects temperature, &c., they had previously received. The following may be considered a fair list for June for those who have plenty of room. For those limited in space, *Achimenes*, *Gloxinias*, a few *Begonias* and *Ferns*, will make a fine blaze in a plant-stove; and *Pelargoniums*, *Calceolarias*, and *Fuchsias*, will make a greenhouse gay.

STOVE PLANTS.

Achimenes, of sorts; *Allamanda neriifolia*, *cathartica*, *Schottii*; *Begonia Martiana*, *Ingramii*, *cinnabarina*, *Prestoniensis*, *nitida*; *Burchellia Capensis*; *Cinnamomum camphora*; *Caladium bicolor*, &c.; *Cissus discolor*; *Crinum amabile*, *amoena*, *angustifolia*; *Coleus Blumei*; *Cyrtoceras reflexum*; *Dipladenia crassinoda*; *Echites suberecta*, *atro-purpurea*, *longiflora*; *Franciscea*, of sorts; *Gloxinia*, many varieties; *Gesnera Douglasii*; *Hoya carnosa*, *bella*, *imperialis*, *campanulata*; *Hedychium aurantiacum*, *Gardnerianum*; *Impatiens latifolia*, *latifolia alba*; *Justicia carnea*; *Ipomœa Horsfalliæ*, *umbellata*, *campanulata*; *Ixora Javanica*, *coccinea*, &c.; *Oldenlandia Deppiana*; *Ossœa purpurascens*; *Passiflora alata*, *quadrangularis*, *princeps*, *kermesina*; *Pourretia recurvata*; *Rhyncospermum jasminoides*; *Ruellia formosa*; *Rondeletia speciosa*; *Stephanotis floribunda*; *Tabernæmontana alba*, *grandiflora*; *Zingiber panduratum*, *chrysanthum*, *officinale*,—the last the ginger of the shops.

GREENHOUSE PLANTS.

Abelia floribunda; *Acacia grandis*, *Drummondii*, &c.; *Adenandra fragrans*, *amoena*, *uniflora*; *Anthocercis viscosa*; *Anthyllis tragacanthoides*; *Azaleas*; *Aphelaxis humilis*, *macrantha*, *rosea*, *purpurea*, *sesamoides*; *Beaufortia latifolia*; *Banksia ericifolia*, *speciosa*, *serrata*; *Bossia heterophylla*, *inophylla*, *scolopendrium*, *cinerea*; *Boronia serrulata*, *latifolia*, *denticulata*; *Chorozema Henchmanni*, *macrophylla*; *Calceolarias*, of kinds; *Crocea saligna*; *Chironia decussata*; *Callistachys lanceolata*, *linariæfolia*, *longifolia*, *ovata*; *Cantua dependens*; *Citrus*, many; *Coleonema alba*; *Callistemon lineare*, *lanceolatum*; *Cactus*, many varieties; *Calothamnus gracilis*, *Knightii*; *Correa speciosa*, and others; *Conospermum longifolium*; *Daviesia latifolia*, *virgata*, &c.; *Dillwynia floribunda*; *Diosma rubra*; *Dryandra formosa*, *nervosa*, &c.; *Erica ampullacea*, *Bergiana*, *Cavendishii*, *depressa*, *denticulata*, *gemmaifera*, *metulæflora*, &c.; *Epacris miniata*, *grandiflora*; *Erythrina cristagalli*; *Eriostemon buxifolium*; *Grevillea acuminata*; *Gazania rigens*, *uniflora*; *Gnidia radiata*; *Goodia latifolia*; *Gardenia grandiflora*; *Habrothamnus elegans*; *Hovea longifolia*; *Hakea acicularis*, *cinerea*, *saligna*; *Hermannia incisa*, *tenuifolia*; *Impatiens balsamina* (*Balsams*); *Jacksonia grandiflora*; *Indigofera australis*; *Illicium Floridanum*; *Kennedyia nigricans*; *Lambertia echinata*; *Leptospermum grandiflorum*; *Lobelia*, dwarf kinds; *Lissanthe Daphnoides*, *strigosa*; *Lachnæa conglomerata*, *eriocephala*; *Leschenaultia formosa*, *Baxterii*; *Mahernia grandiflora*, *bipinnata*, *incisa*; *Melaleuca*, species; *Mitrraria coccinea*; *Mirbelia grandiflora*, *pungens*, *reticulata*; *Maurandya*, varieties; *Nerium oleander*; *Nivenia sceptrum*; *Oxylobium obtusifolium*; *Oxalis floribunda*, *oblongata*, *pentaphylla*; *Podolyria sericea*; *Polygala bracteolata*, *cordifolia*, *latifolia*, *speciosa*, *oppositifolia*; *Phanocoma prolifera*; *Pimelea graciliflora*, *decussata*, *Hendersonii*, *hispida*, *rosea*, *sylvestris*; *Pelargoniums*; *Persoonia latifolia*, *salicina*, *pinifolia*, &c.; *Passerina grandiflora*, &c.;

Pultenæa stricta, *aspera*; *Platylobium formosum*, *ovatum*, *triangulare*; *Prostanthera lasianthos*, *violacea*; *Rochea versicolor*; *Roellia ciliata*; *Statice arborea*, *Dicksonii*, *suffruticosa*; *Scottia dentata*; *Stylidium fruticosum*, *fasciculatum*; *Selago fasciculata*; *Swainsonia galegifolia*; *Stenochilus viscosus*; *Tetratheca verticillata*, *ericoides*; *Tristania neriifolia*, *macrophylla*; *Thomasia purpurea*, *triphylla*; *Viminaria lateriflora*.

A few running comments must conclude this paper.

ACHIMENES.—Supposing these to be now coming into bloom, they will do well in a closish greenhouse, such as where Vines are grown, as they are rather impatient of a very free current of air and unobstructed sunshine. In a cool stove, or an intermediate house, where the atmosphere is kept rather moist, the flowers come finest, and the foliage most healthy. In a draught of dry air the foliage has a tendency to curl, the precursor of insects. If a Green Fly appears, smoke at once with shag tobacco, taking care the tobacco does not burn, and that the smoking is done mildly, and repeated, if necessary, as a strong dose. If the tobacco flares it will be very apt to injure the plants. The whole tribe like plenty of water, and dearly relish repeated rich top-dressings, and weak manure-waterings of a cool nature, such as from old cow-dung. In potting, it is, therefore, advisable to have the bulbs an inch or an inch and a half from the top of the pots, to permit of these extra-frequent surfacings. If grown in pits, guard against steam, or the sun striking the plants with condensed moisture on them, and a close atmosphere. A little air should be admitted night and day, if possible.

ALLAMANDAS.—Complaints have been made that these plants are bad to flower in summer, and worse to keep over the winter. I can sympathise, for from economy having tried most stove plants on the cool system in winter, I next to lost *Cathartica* and *Schottii* last winter; in fact, there is no great vitality in what is left of them. I find, if at all moist, they will not keep healthy long under 50°. From 55° to 60° ought to be their average temperature even in winter, with a rise from sunshine, and no more water given than just to prevent the leaves flagging, or the shoots shrivelling. *Neriifolia* is a shrub, is hardier, and almost ever-flowering, but the flowers are nothing to the others. In getting young plants of *Cathartica* and *Schottii* our friends must not despair at once. They must grow vigorously for two or three years before they expect large flowering plants. The principal thing then is to grow them in fibry loam and peat, with manure-water in the growing season; expose them to as much sun as possible in the autumn. Keep them dryish, and from 50° to 55° and 60° in winter; shorten back the shoots so as to remove all the softest ends in March, and when the wounds are healed after a few days, place them in a high temperature and a moist atmosphere, and slightly shaded at first, before the shoots are elongating freely; then give more light, and the bunches of blossom will, ere long, reward you, if the plant is old enough, and the wood was ripened enough the previous autumn.

BEGONIA MARTIANA, TUBEROSA, CINNABARINA, and other tuberous kinds are very useful for summer decoration where there is little room in winter, as they require little more care if dry at that season than a Dahlia root, and come in when the others are past their best. *Prestoniensis* is a valuable orange-red summer bloomer, and a small plant in a four-inch pot, kept over the winter, may be grown into a fine large specimen by Midsummer.

CISSUS DISCOLOR and **COLEUS BLUMEL**.—These are universal favourites for their fine foliage. Many who have no regular plant stove complain sadly of losing them. It is next to impossible to keep them if, for long periods, they are below 55°. We can hardly give the *Cissus* too much heat, and the hotter and

moister the atmosphere and somewhat shaded, the better and more striking will be the foliage. The *Coleus* is a fine ornament to the greenhouse in summer, and a small plant, saved nicely over the winter, may be grown, with plenty of heat and moisture, into a fair barrow-load before July. I saved small plants of it and the *Cissus*, by placing them under a hand-light at the warmest end of a cool plant stove. Others, though never lower than from 45° to 50°, rotted and dwindled away. The *Cissus* grows very fast from a healthy little plant, though not so fast as the *Coleus*. Without heat considerably above a common greenhouse it is vain to expect to keep them over the winter. The *Coleus*, except in its rich, variegated foliage, being so like the *Plectranthus racemosus*, that soon would monopolise any window to itself, is one reason why many expected it would stand hardy treatment.

ECNITES SUBERECTA flowers freely, is of a rich yellow colour; but the flowers and foliage are small in comparison of the *Allamanda cathartica*. The whole genus require similar treatment, and are just a shade more hardy, and, from their compactness, are well fitted for moderate-sized trellises. The most of them, and *suberecta* especially, are greatly relished by Green Fly, and the smoking apparatus must be no sinecure when they are growing freely and pushing their young shoots. The shoots of this summer bloom that come from well-ripened buds are the wood of last year. This fact furnishes the key-note to their culture. These, as well as *Allamandas*, enjoy bottom-heat in the spring if it can be given to them.

DIPLODENIAS require even more care than *Allamandas*, though the principles of culture are the same. The compost should be fully half peat, and the other fibry loam, silver sand, with nodules of charcoal, and broken pots and sandstone, so as to keep the whole open, and with good drainage allow the waterings to pass freely. When a plant is fixed to a trellis, and is old enough for blooming, success will greatly depend on having the wood well hardened the previous autumn, by exposure to all the light possible under glass, and the atmosphere and soil kept rather dry. In winter the plant should be kept dryish, giving no mere water than will meet the exhausting effects of evaporation. The temperature, even then, should rarely be below from 55° to 60°. In spring, when wishing to set it a-growing freely, plunge the plant in a sweet bottom-heat, about 80°; water the pot in a day or so, and sprinkle the top with the syringe; and, as the buds break, go over and thin the plant of bare and old shoots as necessary; recollecting that it is the healthy, free-growing shoots of this year, from well-ripened ones of the last, that will yield the fine bunches of bloom. Until these flower-buds are nearly opening, a temperature of from 70° to 80° and a moist atmosphere will be relished. After that the heat may be reduced a few degrees, and the atmosphere be less moist. Fly and Thrips are apt to be troublesome, especially if there is any deficiency of moisture. In smoking, avoid tobacco-paper, or what is sold for it, for such valuable plants as these.

GLOXINIA.—There is no end to the varieties in this beautiful group, and well worthy every grower's attention. They are especially valuable to those who may have a small plant stove, or intermediate house, as they may be packed away anywhere in winter, just where their bush-like tubers will not be dry nor wet, and not often below 45° in temperature. When brought from thence, and placed in heat and moisture in spring and early summer, they soon grow and bloom freely. A moist-beated and slightly shaded position is just the place for them. They do little good, therefore, in an open greenhouse, even in summer, as the position is too open and dry. Placed at one end, little air given there, and the pots set on moss, kept moist, they did moderately well,

but seldom presented the vigour they do in a stove, intermediate, or forcing-house. They enjoy light, rich compost, and manure-waterings when growing freely. If started in pits or frames, care must be taken to avoid steams and moisture remaining long on their leaves. If the sun strikes them then, it will regularly print them with white blotches.

HOYA.—There have been some fine additions to this genus of late—the magnificent *imperialis*, the striking *campanulata*, and the very pretty *bella*—the best for a little plant stove among the lot of them; but at the risk of being styled tasteless and miserably old-fashioned, I like the old honey-plant, *carnosa*, better than any of them. I believe it is also the hardiest. I have often treated it just like a Cactus; plenty of water and full exposure to the sun in summer; the exposure continued, and but a meagre supply of water in autumn; almost complete dryness in winter, and a temperature averaging 45°, with a slight syringe on the foliage in a bright day instead of watering the roots. As the sun gained power in spring and early summer, water was given again at the roots, and the fresh growth brought the pretty bunches of sweet wax flowers, distilling their clear dew honey-drops. This, and all the rest, like a little lime-rubbish, broken bricks, and charcoal in the soil; but all the others, so far as I can judge, should not be long below 50° in winter. A little plant even of *bella* is a picture; but commend me to the old *carnosa*.

HEDYCHIDS, such as *Gardnerianum*, are too large for small houses; but where from seven to ten feet in height of standing-room can be given, they are well worth growing for the beauty and singularity of their flowers and the large foliage. We have known several mishaps with them the last season, just because it was not recollected that the strong flowering shoots of this year proceed from buds on the strong *rhizome* roots formed last year. When the flowering is over and the leaves begin to turn yellow, whether planted out or in pots, the roots should be kept dryish until the turn of the year, and the sun and artificial heat have set them growing, when moisture should be freely given. They will take any temperature from 60° to 90°, if the atmosphere is moist in proportion, and, when resting, from 45° to 50°. Strong, rich loams are their delight.

RONDELETIA SPECIOSA MAJOR.—Grow this in peat and loam; give it plenty of heat and moisture when growing; a little shade at first, and bottom-heat if come-at-able; a drier atmosphere when blooming freely; all the light and air and heat it can get, and as much water as will keep it from flagging in autumn; dryish, and from 45° to 50° in winter; prune well back and start again in spring, and every shoot will be terminated with rich corymbs of flowers.

TABERNÆMONTANA.—Treat as you would a *Gardenia*, but they should not be long below 50° in winter.

R. FISH.

FLORISTS' FLOWERS.

THE ANTIRRHINUM.

THE *Antirrhinum* is an example how much one of our native wild flowers may be improved by culture. The *A. majus* is the species I allude to, and may often be seen growing wild on old walls and dry rocks. Grown, however, in the garden, the flowers are much larger, and the colours have been multiplied greatly. The culture of them is exceedingly easy, though in wet soils they will perish every winter. Hence, for the best varieties, a dry soil mixed with lime-rubbish is the best for them. Named varieties should be propagated by small cuttings, put in from May to July in sandy soil, under a hand-light, shaded at first from the sun; or

they strike freely in pots, in a cold frame, in the usual manner. In either case, they should, after they are rooted, be put singly into small pots, in light, sandy soil, stopped freely, and placed in a cold pit or frame through the winter. In the spring, plant them out in a rather rich, light soil, mixed with lime-rubbish; stop them again to make them bushy, and they will flower splendidly through July, August, and September, provided the first flower-stems are cut out before seeds are produced. Few flowers last longer, or make a finer show, than a good bed of *Antirrhinums*. If the winter is mild, the greater part of them will live through it, and flower finer the second year. It must be remembered, however, that they are only biennials (plants that live only two years); hence, to preserve the variety, it must be propagated by cuttings at least every other year.

To produce new and improved varieties it will be necessary to sow seeds. Save them from the largest, best-formed, and brightest, most distinct colours. Sow on a border, in the open garden, early in spring, and as soon as the plants are large enough, transplant them into a prepared bed about five inches apart every way. Do not allow any to flower the first year. Should they show flower, nip them off. The plants will then be strong, able to stand the winter, and will flower well the second year. Select the best, and propagate them by cuttings. Should any be very superior to any yet raised, it will be advisable to take such up, and preserve them through the frost in a cold frame. There are some self-coloured varieties that may be strongly recommended to the cultivator to grow in masses in the bedding-out system; used for that purpose they form a pleasing variety, lasting long in bloom.

TEN SELECTED NEW VARIETIES.

1. *Conqueror*.—Rich yellow, with crimson flakes like a Carnation; large flower, good shape. Produced on a very large, well-filled spike. An extra fine variety.

2. *Constance*.—White tube, crimson lip, blotched with white; extra fine form. A good, showy, distinct variety.

3. *Empress*.—Rosy-blush tube, with a large, clear, white lip. A fine variety.

4. *Gabriel d'Etres*.—White tube, bright rosy lip, beautifully spotted with crimson carmine. A novel and beautiful kind.

5. *John Edwards*.—Tube and mouth white, lips rosy-crimson, blotched with white. A very showy, distinct variety.

6. *Lord Palmerston*.—Tube white, lip very dark red, blotched with white. A fine variety.

7. *Madame Riebel*.—Blush-white tube, lip white, broadly striped with red. Large and fine.

8. *Sir Edmund Lyons*.—Tube white, sepals deep purple-crimson. Very large and fine.

9. *Rosa Bella*.—A self, of a clear, bright rose, well-formed, and large.

10. *Sulphureum*.—Tube white, mouth yellow, lower lip veined with purplish-crimson. A large, well-formed flower.

TWELVE OLDER SELECT VARIETIES.

1. *Album pleno*.—Double white. A good bedding variety.

2. *Alma*.—Yellow, with large red stripes.

3. *Beatrice*.—Tube pale buff, upper lip blush white, veined with purple. A large flower.

4. *Blood Royal*.—Tube pure white, lips large, and of a pure crimson colour. A good bedding variety.

5. *Hendersonii*.—The most distinct variety known. White ground, with a clear, distinct margin of carmine round each petal.

6. *Laurenciana*.—Rich, dark crimson, self-coloured flower, excellent for bedding.

7. *Peacock*.—Clear yellow, striped with rose.

8. *Primrose Perfection*.—Clear primrose, self-coloured flower, compact habit, abundant bloomer, good for bedding.

9. *Princess Alice*.—Pure white, large, self-coloured flower. A fine variety.

10. *Tricolor*.—Tube white, lip puce, with a golden centre.

11. *Van Aerschost*.—Tube deep crimson, throat yellow, lip yellow, blotched with white. Distinct and beautiful.

12. *Village Maid*.—Tube and throat pure white, petals rosy-lilac. A distinct and lovely variety.

T. APPLEBY.

(To be continued.)

SEASONABLE NOTES ON BEES.

REPLACING SWARMS.

THE hum of bees is always pleasing, whether among heath-bells or fields rich with white clover; but the buzz of a swarm is startling, especially when pursued by cottagers with clanking pans and fire-shovels, or amateurs who are above such follies. The singular way in which hive-bees form fresh colonies differs widely from the quiet method of wild bees. With these, queens begin their nests alone, and rear their brood with great care; whereas the queens of the hive-bees are helpless, incapable of procuring their own food, or even forming a cell, so that they die if left alone. On this account a large number of old and young bees laden with store follow the queens from the old stocks, and begin new ones; and when such separation is excessive it causes great diminution of the produce, and often ends in the loss of the whole. This, however, is only in accordance with the original habits of bees, who are adapted to a warm climate, and the only remedy is to replace the swarms in their stocks.

There are several ways of doing this. Some expert apiarians catch the queens at the entrances of the hives when about to fly off with their attendant bees. Others shake off the clusters, or swarms, upon a white cloth, and pick out the queens, leaving the bees to fly back to the hives. I have tried both these methods, and found them not only very uncertain, but requiring the courage of Bonar, who would go among swarms in his kilt.

Another, and the safest, plan is to place the hive, as soon as a swarm is settled in it, upon a fumigating-box, or an inverted empty hive, with a bit of lighted fungus on a cleft stick fixed at the bottom. This must be covered with a tin box perforated, or a small flower-pot, to keep off the bees, as they will quickly drop down from the suffocating effect of the smoke. A piece of fungus, or *puff-ball*, about the size of a hen's egg, will suffice to stupefy the bees, which may be turned over upon a cloth to discover the queens, which are easily distinguished by their size and yellowish colour of their sides, particularly old ones. Then place the disabled bees in the inverted hive near their former home, and give them plenty of air; and as they recover, they will fly back to their old hive, as they miss their queens. It must be observed, that in succeeding swarms there are often several queens, which must be carefully sought out; but when left alone, the bees destroy all except one.

If the swarm comes off again, the same method must be repeated; but swarming ceases after the young queens are cast out dead from the stocks. This may appear a troublesome process, but it is easier than to unite strange swarms or colonies, where we have to contend not only with the animosity of rival queens, but that of strange bees.

I may add, that correspondent "C. M.'s" notice of a swarm on the 21st of May is the earliest we know of this season.—J. WIGHTON.

CALBOA GLOBOSA.

THIS belongs to the Natural order of *Bindweeds* (Covulvaceæ), and to *Pentandria Monogynia* of the Linnæan System. It is the *Morena globosa* of some botanists, and

the *Quamoclit globosa* of others. Under this last-mentioned name it is noticed in THE COTTAGE GARDENERS' DICTIONARY.

"Raised from seeds received from Mr. Hartweg in January, 1846, said to have been collected on the eastern declivity of Orizaba, in Mexico.

"A rambling perennial, smooth in every part. Leaves thin, dull green, on long stalks, extremely variable in form; some are cordate and acuminate; others sagittate; others completely hastate, with the lobes all narrow, and the lower ones deeply angular. The flowers grow in naked umbels, on a peduncle nine or ten inches long; the pedicels are from one inch and a half to four inches long. Each sepal has a long subulate process at the back. The corolla is two inches and a half long, deep rich red, with a curved cylindrical tube, and a campanulate erect limb, divided into five erect rounded wavy lobes. The stamens are declinate, and longer than the corolla.

"This very curious plant was referred to *Quamoclit* by Mr. Benthams; but it appears to be perfectly distinct from that genus in its declinate stamens, and curved corolla with a great campanulate inflated limb. Whether or not there may be more than one species is somewhat uncertain. The *Calboa vitifolia* of Cavanilles, from St. Blas, in California, is figured by that author with five long distinct reflexed segments to its corolla, which is said to be yellow on the outside, and purplish-red in the inside. If so, it must be distinct from this. The plant in the Society's garden is undistinguishable from the Guatemala specimens brought home by Hartweg, and yet it was raised from Mexican seeds. This gives rise to a suspicion that Cavanilles' account is not to be trusted, and that there may be only one species; if so, it will bear the name of *C. vitifolia*.

"A strong half-woody climber, growing freely in any good rich soil composed of loam and sandy peat. It is easily increased by cuttings of the young shoots, and requires to be kept rather dry in a cool part of the stove during the winter, but should be grown in a cool airy part of the greenhouse during summer, where it will flower from August to October.

"Although undoubtedly a fine species, it is only fit for growing where there is plenty of room for its tops to spread. It will not flower in a pot, and must therefore be planted in 'the open ground.'—(*Hort. Soc. Journal.*)



[*Calboa Globosa.*]

WARDIAN CASE AND AQUARIUM COMBINED.

I HAVE lately had an opportunity of inspecting a new combination of the Wardian Case with a fresh-water Aquarium, which appears to me so interesting, and so beautifully adapted for ornamenting either the greenhouse or the drawing-room, that I requested permission to forward an account of it to you, thinking it might be equally interesting to many of your readers.

The inventor, if I may so call him, is Mr. H. Baines, Sub-Curator of the Yorkshire Philosophical Society's Museum and Gardens, and he has, at present, in full operation, a considerable number of these very elegant compound cases. I enclose you a slight sketch of the general appearance of one of them.

It consists, in the first instance, of a glass vase, of about twelve inches in diameter and nine inches deep. This is

furnished near the top rim with a grooved flange, which serves at once to sustain the bell-glass and to receive the condensed moisture arising from the surface of the water in the Aquarium. Into the centre of the glass vase, or tank, is inserted a pedestal, also of glass, and on this is placed a blue glass dish, or tazza, made to fit on to the top of the pedestal. I may here observe that Mr. Baines has had the lower vases made purposely of glass slightly tinged with blue by the mixture of a little cobalt with the other materials of flint glass, and finds them do better than when made of pure white metal.

His mode of stocking the Cases is as follows:—The pedestal being inserted into the vase, the bottom is covered with two or three inches of fresh soil, not too rich, in which the aquatics are planted. The soil is covered with a layer,

about an inch thick, of flints or sea gravel, in order to prevent the molluscous inhabitants fouling the water by stirring up the mud. The water is then introduced through a fine rose or strainer. Soil is also placed in the glass dish before mentioned, which is about seven inches in diameter, and one and a half inches deep; and here are planted the plants suitable for a Wardian Case. The soil is then covered with pebbles, forming a miniature rock-work. The dish then receives a good watering, and is placed on the pedestal, and the whole is covered with a large bell-glass.

The combined effect of the whole is, I can assure you, most elegant, and it is at once evident that, by the use of a tall shade, such as is made use of for small statuary groups, a series of tazzas, gradually diminishing in size, and displaying plants of varied character, might be introduced to almost any extent; and by making these tazzas of the more ornamental marbles, or of spar, such as the Blue John of Derbyshire, and using agates, cornelians, jaspers, or pieces of ore and spar for the rock-work, it assumes a highly ornamental character, fit for the most elaborate drawing-room; whilst, by introducing the rarer Ferns and Lycopods, or the more curious of our fishes, lizards, water snails, and beetles, the Case becomes a valuable adjunct to the library table or window of the scientific. But even when furnished with the more ordinary denizens of our pools and rocks, it affords an interesting example of the striking adaptation of the animal and vegetable kingdoms to each other, and of the admirable balance which, on a larger scale, exists throughout the whole world.

Here, as the decomposing vegetable matter and minute confervoid growths spring into being, the water snail, which finds in them its proper nutriment, prevents their accumulation, and converts what would otherwise discolour and corrupt the water into a rich and fertile pabulum for the vegetable world around it. The fish, again, feed on the insects and young snails, and also excrete a matter well adapted as a rich food for plants, and able to sustain a luxurious growth. The plants, again, whilst thriving on the rejected matter, which has fulfilled its purposes of nourishment in the fish and snail, and appropriating to the construction of their own tissues and fibres the carbonic acid produced by the fish in its respiration, give out, in turn, oxygen to sustain the healthy functions of animal life; and thus, in a constantly recurring cycle, do the various inhabitants of this miniature world contribute mutually to the maintenance and adjustment of the balance of the animal and vegetable kingdoms.

Several of the Cases arranged by Mr. Baines have now been in operation for nine or ten months, and the water is still perfectly pellucid, whilst the plants and animals are in a most thriving condition. In case, however, of the water becoming green or turbid during the summer, the water could be drawn off by a small gutta percha pipe covered at one end with gauze, and replaced by fresh. The bell-glass may also occasionally be removed with benefit to the plants, and a sprinkling of water given to those in the central dish.

The following fishes, insects, and plants have been used by Mr. Baines in his Cases; but the list may easily be increased according to locality and fancy:—

FISHES.—Small Gold Fish, Minnows, and Sticklebacks.

MOLLUSKS.—*Succinea putris*, *Planorbis corneus*, *carinatus*, and *marginatus*, *Cycas rürcola* and *cornea*.

INSECTS.—Several species of *Colymbetes*, *Hygrotes*, *Hadaticus*, *Gyrinus*.

FOR THE WATER PLANTS.—*Vallisneria spiralis*, *Aponogeton distachyon*, *Nymphaea odorata minor*, and *Nymphaea macrantha*.

FOR THE WARDIAN CASE.—*Adiantum capillus Veneris*; *Lastrea dilatata* Schofieldi, a beautiful small Yorkshire



variety; *Asplenium viride* and *trichomanes*; *Asplenium fontanum*, &c. Lycopods—*Willdenovii*, *umbrosum*, *stoloniferum*, *mutabile*, *densum*, and *lepidopterum*.—*Qvis*.

CABBAGE LETTUCE *versus* BATH COS.

MANY readers of this periodical will have perused with pleasure the excellent articles on vegetable culture Mr. Errington favours us with occasionally, and myself not the last among the number; but there was a passage in a late article on "Succulent Vegetables," where Mr. Errington's opinion differs from mine, and where he pronounced the decided pre-eminence of the Bath Cos over the Cabbage Lettuce.

We, on the Continent, think differently, and seeing no Frenchman or German rise to take up arms in defence of our much-esteemed Cabbage Lettuce, I declare myself at once its champion, well remembering how many dishes have been relished with roast beef, as genuine in its German quality as my worthy friend in Cheshire enjoys his famed English beef with the Bath Cos. The reason why one kind of the same vegetable is so much better liked than another in different countries lies, no doubt, in the peculiarity of it.

properties, leading the fancy of one to its crispness, and the other to the tender leaves of the vegetable in question.

Here, then, are two different views, and, as far as I am able to judge, it appears to me that the English palate, in a general point of view, gives preference to piquancy and substance, such as the crisp Bath Cos and Celery afford, while we, on the Continent, continually aim at tenderness, or rather, softness. I beg leave to use this term, as it implies the true meaning better than any other word. I do not wish to dispute in the least the tenderness of the Bath Cos; but the Cabbage Lettuce possesses peculiarities we prefer so much more.

It is just that delicious white sap, reminding one of cream, and the soft yellow heart, untouched either by sun or air, melting on the tongue, when very young, like a French Beurré, that we Germans admire so much in the Cabbage Lettuce, and which we cannot taste in the Bath Cos. We give preference to pressing with the tongue, rather than setting the jaws in motion, such as you must do with crisp Bath Cos or Blanched Celery.

And this reminds me of another difference in opinion and taste. We have repeatedly tried to introduce the Blanching of Celery for a general culture in Germany, but it is useless; and it is not three months ago I was asked by a friend of mine, Mr. Tatter, the very same gentleman who wrote "On Forcing the Apricot in Dutch Pits," which article was published in these columns a few weeks ago, whether I did not know of any new or different vegetables in cultivation abroad; and when I said, "Why not try some of the English?" he replied, "Ah, we have done that before; they meet with no approbation." Thus we differ in the Celery in the same way as we give preference to the Cabbage Lettuce. Our favourite kind is the Bulbous or Turnip-rooted Celery, and the toiling cottager must have his row of it as well as it is served for the aristocracy.

When the bulbs have attained about the size of small Swede Turnips we take them up, store them in trenches, and, any time during the winter, a root or two serve to make us an excellent salad, simply by peeling the brown skin off, heading down the green top, boiling them till they are quite soft, and cutting them in thin slices the same as with Cucumbers, and we season these slices, when cold, with vinegar, pepper, and a little olive oil; and, taken with beef or mutton, it is really a most delicious vegetable, yielding a cooling tender salad, when Lettuces and green things are, in our Siberian winters, out of the question. It is surprising that this kind of Celery does not meet with more approbation in England, as it is, besides, so very useful for flavouring soups, leaving the cut pieces to be eaten with it. In fact, with us in Hamburg, we consider the Celery quite indispensable.

But to return to the Lettuces (and I must apologise for digressing thus far), it is, as has been said, the softness of the leaves that we prefer; and I have only to add, in conclusion, that in the same way as with the Celery, we eat the Lettuces in pieces, mix them well with vinegar and salad oil, and garnish the surface with eggs, boiled hard, and cut in fours. In gentlemen's houses cream is added, which enhances the mild flavour of the salad considerably.

With regard to White or Green Asparagus, we differ greatly, as no head touched by daylight, or greened in the least by the sun, would be suffered to appear on gentlemen's tables; but there is room to speak on that subject another time.

Of all the Cabbage Lettuces, I have always found the Neapolitan to be the finest; and for forcing, to be cut in April and May, we choose the Brown Stonehead, that kind being so hardy, that little self-sown seedlings will brave the severest frost when near a wall.—TH. SPRECKELSEN.

THIS YEAR'S ORCHARD FRUIT CROPS IN KENT.

WHENEVER a complaint is often repeated, it usually gives rise to the inquiry "Is there any cause for it?" and an inclination prevails to suppose the complaining party is a confirmed grumbler. Be this as it may, I must again repeat much of the same unfortunate story that I did last year, relative to the fruit crop of this dis-

trict. To those not engaged in horticultural or agricultural affairs, it may seem strange that the markets of London and elsewhere are liberally supplied with the article he is told is all but totally destroyed in the districts which usually supply it in greatest abundance. Yet it often happens so, for the All-wise Disposer of events takes care that a universal failure never takes place. Certain districts may suffer, but others are spared; and the social state of things now-a-days is such that we have the means of sending long distances for any object not to be had at home, and the speedy transit of goods from one place to another tends to equalise the markets very much.

In 1854 the fruit crop was entirely annihilated for some miles around London at the south and western side; while in Kent, to the eastward of the great metropolis, the crop, though a slight one, was better than last year, and was, on the whole, a remunerative one to the grower, the deficiency elsewhere securing for him high prices, and, altogether, the trees were in better health; and it was fairly hoped they had set their embryo buds with sufficient strength to insure a good crop last year. This, however, was not the case. The crop of 1855 was a poor one, and many orchards were much diseased, and, altogether, the fruit crop of 1855 was so unfortunate that many fine orchards were threatened to be done away with; and in some instances this has been the result, but in others they have been spared another year, in the hope that perhaps a good crop might atone for the loss of the last three or four seasons. Alas! the season of 1856 threatens to be worse than any that preceded it, as I heard a respectable grower affirm his belief that his Apple orchards would not produce him a bushel of fruit per acre. Another orchardist, whose plantations in favourable seasons produce about six thousand bushels, will not have more than sixty this season, and these all on a few trees, which, by some means, escaped the general failure. In fact, it requires very little judgment to determine that many large trees will not produce a single fruit each, as at the time I write (June 16th), they have not a single green leaf on them; and many a tree has not even the remnant of a green leaf. Leaves there certainly have been; but they have died off as if struck with fire or some similar misfortune, as certain tufts of withered bloom and leaves cling to the trees in such a way as removes the impression that they have never started into growth.

This, of course, is an extreme case, but it is a very common one, and is not confined to aged or worn-out trees, for an excellent orchard of dwarf Apples, about ten or twelve years old, which had been carefully trained and attended to in their early growth, and which ought now to have been in their prime, are almost without a vestige of green about them. The leaf-stalks are all that many of them have got, and some of them have not even that. In fact, if solitary trees had been seen in that condition, they would have been considered as utterly dead; but when a whole orchard presents the same appearances, there is certainly something unusual to account for.

It is right to say that all do not look alike bad, but none look well; and I do not hear of any one having a good crop. In general, the tops of trees are more or less blighted as described above, but a few green leaves and caterpillars below give the appearance of life in them; and in some cases, when very low dwarf pruned trees occupy a space below the others, there is more healthy foliage on them. Caterpillars abound very much, and, after having devoured the Apple foliage, they are descending and preying on the under fruits.

Filberts are suffering very much. Some spirited growers are attempting the picking of them off, and one gentleman had as many as three bushels picked off in

one day. Just imagine three bushels of caterpillars, and it is easy to conjecture how much damage they must have done.

To sum up the whole, I may say that, with a very few exceptions indeed, the *Apple* crop of this district is a total failure, being the worst on record; and what is more, the trees have received so great a check as to be wholly unable to make wood and perfect buds this season, to produce fruit next year. It is not unlikely that many of them may die entirely.

It is somewhat difficult to account for the above, as the weather, though dull, wet, and cold, was free from frost, and the early fruits, as *Plums*, *Gooseberries*, and *Currants*, are tolerably good. *Black Currants* are certainly not so plentiful as in some seasons, but these generally recover much. *Pears* are thin, but the trees are not in so deplorable a state as the *Apples*; in fact, they look tolerably well in some places; but they vary much. Certain kinds were very prolific of bloom, while others were destitute of it, or nearly so. *Cherries*, also, vary in produce. The early ones are bad, and the late ones, in some places, very thin; but in general they are better than the forward ones. *Filberts*, which are as important a fruit here as any, are, perhaps, the best crop this season, *Gooseberries* alone excepted. They are, however, far from being generally a good crop, and, like many other things, are suffering from insects. The *Apple Caterpillar*, having no longer any of its favourite food, is attacking this plant; but it is to be hoped that it will be stopped ere its ravages extend far.

To those who may be unacquainted with a Kentish orchard, I may here say they differ much in general appearances, but the greatest number of them are formed of mixed fruits; six feet standard *Apple-trees*, standing some twenty-four or more feet apart; *Filberts* about ten or twelve feet, and the intervals filled up with *Gooseberries* or *Currants*, making a plant on every square of five or six feet, so that when the whole have grown up, there is the appearance of a crowded thicket, perhaps too much so for the welfare of everything concerned; and if the blight had been confined to plantations of this stamp, it is easy to suppose that this must have been the cause, which, however, it was not, for plantations under other circumstances have suffered equally, trees on grass, at wide distances, being equally affected as the others. Neither has situation been any preventive, for all have suffered, though not equally so, for portions of orchards have escaped with less injury than others, though apparently occupying a worse position; and some have escaped with comparatively little injury, except the loss of the crop, which is nearly general.

It is difficult to account for this state of things. A friend, writing from a distant county not remarkable for orchard fruits, suggests the propriety of always thinning the fruit crop where it is too large, implying that trees cannot bear two good crops in succession. Doubtless there is much truth in this; but when are we to have this heavy crop? Several acres of orchard fruits, within two miles of where I write, have been destroyed during the past winter, although in age and other respects they ought to have been just in their prime. The proprietor, tired by eight or nine years' disappointment in succession, prefers trying something else, and the present season's experience justifies him in it, for adjoining orchards have suffered as described above.

I may remark, in conclusion, that the misfortune is not a new one, for in most seasons certain districts are subject to it. In the present it has attacked most of those lying on the two *sides* of a ridge of hills running east and west; the extreme top, or ridge, being less affected than the sides, though in places that has suffered also. And the north side is not worse than the

south, the soil, in general, being the same dry, light-coloured, friable loam, resting on a soft, porous stone, with Kentish rag or lime-stone below; but in some instances there is a tenacious red clay near the top, which is far from porous of itself, but, being intermixed with stone, the whole is perfectly dry; but some orchards, on lands differing widely from the above, have suffered in like manner. So the whole question is one of difficulty, and the puzzle is, How are we to guard against such a state of things another year? Perhaps this cannot be done, as the cause may be an atmospheric one; and yet the present season has not presented any of those extraordinary peculiarities to account for this, and many crops are healthy enough. Grass and corn both are looking well; and many tender garden plants, having lived through the winter, do not seem to have been hurt in the spring. The absence of sunshine in May, and abundance of rain (upwards of four inches), have, doubtless, had some share in the misfortune; but the apparent capriciousness of the attacks is a puzzle I must either leave for others to solve, or postpone it until something throws more light on the matter.

J. ROBSON.

GENERAL NOTES.—JULY.

THE last principal sowing of *Kidney Beans* should be made, and a few *Mazagan Beans* sown now will produce a late crop if the weather be favourable.

Sowings of *Parsley*, *Radishes*, *Spinach*, *Turnips*, *Lettuces*, and *Cabbages* as *Coleworts*, for the first main spring crop, and a few *Early Horn Carrot* to stand the winter, are to be now made.

Plant *Borecole*, *Kales*, and *Savays* as other crops are cleared; also *Cabbages* (thickly) for *Coleworts*, *Cauliflower* and *Celery* for full crops, *Endive* and *Leeks* if wanted, and *Lettuce* for succession. *Onions*, *Shallots*, and *Garlic* may now be pulled up to dry and store away, and *poterbs* cut when in full flower, and dried in the shade.

Wall and other *fruit-trees* will require early attention, to remove badly-placed or crowded shoots, to thin the leaves over fruit, to remove suckers, and to lay in young wood.

Lay the strongest runners of *Strawberries*, and guard the ripening fruit from birds and insects.

A good breadth of *Brussels Sprouts*, one of the most productive and hardy vegetables, should now be planted.

Vines on walls will require some attention, to remove the young spray, to stop the shoot at the first joint above the fruit, and to apply liquid-manure to the roots during their season of active growth.

Geraniums, and all other plants from which you are desirous to save seed, should be selected, and placed near the light, their luxuriant and straggling shoots shortened to keep the plants neat and bushy, and to be attentively supplied with water. Any others that have done blooming should be placed in an open but sheltered situation for ten days or a fortnight (out-of-doors), to ripen the wood, then cut down, and returned under glass until the young shoots are about an inch long, when they should be shaken out of their pots, and divested of the soil and a portion of their roots, repotted into smaller pots that will just hold them, placed in a cold frame, and shaded for a few days. The *cuttings* may be inserted in the open ground in any warm corner, where they will very shortly strike root.

Orange and *Lemon* plants will require particular attention in dry weather, to supply them with plenty of water; and any pots or tubs that have not lately been top-dressed with fresh compost should now be done, by removing the old soil to the depth of three or four inches, and replacing it with new.

All plants to be kept clean from decayed leaves, and the surface of the pots from weeds. *Cuttings* of *Azaleas*, of the young wood, can now be struck in a sandy soil, under a hand-glass.

All *rooted cuttings*, when potted off, should be removed to a frame by themselves, where they can be shaded until they make fresh roots. The top shoots of *Chrysanthemums* may

now be layered into small pots, and shifted into larger as they require it; also, cuttings now put in will produce dwarf flowering plants in the autumn.

Carnations and *Picotees* should be layered as soon as the shoots are long enough. As they require to be propagated every year to produce good, strong, blooming plants, the method, although simple, may be useful to some. Nothing more is required than a barrowful of fine, loamy soil and sand, mixed together, and some small, hooked pegs, about six inches long, the lower leaves of the longest shoots to be trimmed off, leaving a few of the top leaves with an inch of the extreme points cut off; cut below a joint on the under side, inclining upwards, and more than half-way through it; then bend the shoot down to the soil, and secure it there with the hooked peg, covering it with an inch more of soil, to be made tolerably firm about it, when watering renders the operation complete. When the weather is dry, every opportunity should be taken to fertilise the various flowers from which seed is desired.

Bud *Roses*, and strike the China varieties from cuttings under a hand-glass. The *Double Scarlet Lychnis*, *Double Sweet Williams*, and other such-like plants, can now be propagated by cuttings in a shady border.

Seed of the *Intermediate Stock* to be sown about the middle of the month on a shady border, and slightly covered with soil; being rich in colour and deliciously fragrant, it is an invaluable acquisition to the flower-garden in spring and summer. In three weeks or a month after sowing they will be fit to be potted off, one in a 60-sized pot, in strong, loamy soil, protected in cold frames during the winter, with plenty of air at all favourable opportunities, to be shifted into 48-sized pots in March, returned to the frame until the latter part of April, or beginning of May, when they are planted in beds or borders, where they grow and flower to perfection. They require but very little protection in ordinary winters, as some transplanted last autumn on the north side of a wall (where they were left during the winter without any protection) are now, Midsummer-day, in full bloom.

Herbaceous plants, of good sorts, can now be easily propagated by cuttings; they will strike freely in the open ground, or under a hand-glass, on the north side of a hedge or wall.

As high winds sometimes occur at this season of the year, it is advisable to have the *Dahlias*, *Hollyhocks*, *Phloxes*, *Sweet Peas*, and all other plants that require support, well staked. If a stiff breeze sweeps over the ground, it will then be too late to tie up the broken, twisted, or sprawling branches, with any hope of a beautiful or satisfactory autumnal display of flowers.

The thinning and pegging down of plants, the mowing of grass-plots, and the edging of flower-beds and borders, and many other such matters will now require particular attention.

A good breadth of *White Turnips* (the Dutch or Stone), should now be sown, and the *Sweedes* hand-hoeed and thinned.

Mangold Wurtzel must be singled out so that they may stand seven or eight inches apart, selecting the best, and transplanting the thinnings to fill up blanks or any other vacant places amongst growing crops; at the final thinnings to stand from fourteen to sixteen inches apart in the rows.

Now is the season to collect weeds and all other refuse for the *manure heap*, which, by perseverance in collecting, will accumulate to a large size in the course of the summer and autumn, and form a rich compost for spring use.—
WILLIAM KEANE.

THE ADVANTAGES OF SHADE IN A HOT SUMMER.

ALTHOUGH there are few things which differ more than *shade* and *shelter*, yet we sometimes see them confounded together. Useful as they both are in their respective places, there are many ways in which they act a detrimental part in horticulture. But few of our useful fruits and vegetables like shade, and even those which will live and prosper under it rarely do so well as when fully exposed; while the great mass of fruits and vegetables are very much injured by the ordinary way in which it is often applied. The drip of trees, independent of the shade of those trees, has a bad effect on many things growing under them, and the roots

suck up the moisture from all adjacent ground, and leave but little that is good for the surface crop to live upon. Nevertheless, Nature has destined certain plants to enjoy this subordinate position, and they thrive and do well in it; but they are not the plants which form the necessary adjuncts to the dinner-table.

Taking the matter in a practical point of view, high and wide-spreading trees are decidedly injurious to a kitchen-garden, and ought to be avoided; while outside the garden, especially on the east, north, and west sides, such trees are often of great service; but they ought not to be too near, as all the purposes of shelter are served by their being at some distance, and the well-being of adjoining crops ought not to be interfered with; and it is well known that trees or hedges are better shelters than walls or buildings. These, however, have their use. We mean "shade," because a high wall, casting its shadow some distance from it, breaks the direct rays of the sun from overheating or withdrawing too much moisture from the parched earth in dry seasons, when there is none to spare, and on that account a border at the north side of a high wall is of great service in dry seasons and dry situations, when many of the ordinary vegetables raised from seed are difficult to vegetate in fully-exposed sunshine, and also to grow and perfect some which have but a short existence, as *Lettuces*, *Cauliflowers*, and, in some cases, *Kidney Beans*; but, generally, the latter will endure a greater amount of sunshine than most things.

There are many purposes to which a north border may be put with every advantage, not the least being for the production of a late crop of *Strawberries*, by having a bed or two of some of the latest kinds planted upon it. In fact, anything that is wanted later than the usual crops from the plants to which it belongs may be grown here.

A north border will not, in all cases, contain everything that is wanted that way, consequently it must be economised so as to be appropriated to the most useful things only. For instance, let us suppose a wall or range of buildings extending along the south side of the kitchen-garden ground of twelve or more feet high; on this wall late fruits may be trained, as *Morella Cherries*, Red and White *Currants*, and a good late *Plum*, if the taste of the proprietor approves of it. These trees being attended to in the proper way, I would not advise anything being planted nearer than three feet from the wall, and if the trees be good and in a healthy, bearing state, do not, by any means, crop nearer than five feet from the collar of each; but, beyond that, have a bed or two of late *Strawberries*, and some ground in tillage on which to sow *Lettuces* and *Radishes* for use during the summer. Begin about May to sow in such a place, or sooner or later, as the season and other circumstances seem to determine; and seed-beds of *Cauliflower*, *Cape Brocoli*, and other things, may, with advantage, be here, especially in such gardens as consist of that dry, sandy, or gravelly soil which requires water every day, or thereabouts, in hot seasons. On some occasions I have also seen *Vegetable Marrow*, early *Celery*, *Kidney Beans*, *Peas*, and other crops, all, or in part, occupying such a place; but, in a general way, the space is too limited for all to be accommodated here, and then the most useful, or those which will not grow elsewhere, ought to be selected.

These remarks are penned in consequence of having noticed many small occupiers cropping their north borders with Sweet Herbs, Black Currants, and other permanent crops, in places where it was common to see Cabbages turn blue and Peas mildew early in summer from the drought, and where there was incessant labour in preparing the various products of the seed-beds for planting out. To all such I would say, "Economise your north border;" for, depend upon it, that will become the most useful portion of your garden; and do not allow this or any other portion of the ground to be occupied by any other crop than that most appropriate to it. Let a due discretion be exercised in devoting each individual portion to the crops most suitable for it, and there cannot be any more proper for the shady border of the kitchen-garden than those detailed above.—
J. ROBSON.

QUERIES AND ANSWERS.

GARDENING.

PLANTS FALSELY NAMED.

"A few days ago I purchased a plant from a very eminent firm called *Cerasus Caucasicus*. I bought it on the strong recommendation of the foreman, who seemed very anxious that I should have a shrub of such fine foliage, and as hardy as the common Laurel, of which, I believe, it is only a variety, and not a recent introduction from the Caucasus at all. Now, I think five shillings is paying rather dearly for such a spurious article; it is bad enough to be duped into purchasing, at most, only frame plants for hardy ones; but it would be a far worse case of fraud if this *Cerasus Caucasicus* should prove merely a garden variety of the common Laurel. Perhaps, if you were to publish this communication, some light might be thrown upon the subject. I have no doubt it would greatly interest many of your readers if a list of tender plants were published that have been advertised as quite as hardy as the common Holly. I have purchased at least a dozen things so puffed up, that are quite as tender as the Myrtle. To show my sincerity, I have enclosed my card with name and address.—DONE BROWN."

[Never buy a new plant, or a plant which is said to be new, unless you either see it or get the dealer to guarantee that it is such as he represents it to be. If you bought the plant in question as a Caucasian Cherry without seeing it, and found it to be only a variety of the common Laurel, you have been cheated. If you bought it after seeing it, no one is to blame but yourself. The foreman of the nursery was merely mistaken, and your money ought to be returned to you. About the hardness of new plants you are too severe; the old weather prophet himself could do no more than guess that such and such a new plant is likely to be hardy from the place where it was found, and it may be a long time before any one is fully sure of the hardness of a new plant. Gardeners, in general, cover the new comer for the first few winters if there is a shade of doubt about its hardness; and many plants which are quite hardy are lost before they have time to recruit themselves after a severe propagation in close hothouses. The names of the "dozen things that are quite as tender as a Myrtle" would be of more real advantage than a whole list of "tender plants." We might publish a page full of such names in each number, and then come short of the mark.]

RAISING DOUBLE FLOWERS.

"Can you inform me how to get double Brompton Stocks? Is it by planting double and single side by side, or saving seed from semi-double ones?—NOVICE."

[Double flowers a botanist terms monsters. A complete double flower cannot produce seeds, for all the parts of fructification are transformed into floral leaves or petals. Though denominated monsters, double flowers are universally admired, and more valued by florists than single ones. Such persons, like "Novice," are very desirous of knowing how certainly to produce them. It is rational to suppose that any flower that has more than the usual number of petals is more likely to depart still further from its original, or, if you will, wild state. Hence seed should be saved from such flowers, where the object is to increase the number of petals. Some seedsmen adopt the plan you mention, of planting alternately a double and a single flower, imagining, by some hocus pocus, that the single flowers will be snitten with the double ones, and produce such-like. This is a mistaken idea. The perfectly double flower cannot yield any pollen, for all the anthers and stamens are changed into petals. It is high cultivation that produces double flowers, and, therefore, "Novice" must keep his stock well supplied with manure-water, grow them strong, and at least a foot apart. Such plants as have more than four petals he should be doubly careful of. They have commenced the process of doubling, and are the most likely to yield double flowers the next generation.]

TO CORRESPONDENTS.

APPLE-EATING BEETLE (*Alpha*).—The same kind of beetle, with brown wing-cases and green-metallic, shining thorax, has attacked young Apples under our own notice this summer. It gnaws cavities in the skin and flesh of the young Apple, causing it to grow deformed. This beetle is the *Scaphobius* (*Phyllopertha*) *horticola*. It usually feeds on the petals of flowers.

RHUBARB WINE (*A. B. H.*).—You will find full directions in our 99th number, which you can buy for threepence. It is too long to republish.

SPOTS ON GRAPES (*J. M.*).—Your Grapes seem to be only a little rusted. It is unsightly, but will not injure the crop. Do not keep your house hotter and drier; it will not remove the rust.

MULBERRIES FALLING (*C. P. C.*).—Perhaps your tree is in too cold a situation; they love warmth. Perhaps in a loose and dry soil: the want of permanency of moisture at such periods will cause even Apples and Black Currants to drop. You do not give the necessary *data*, or the case might be at once met.

WHITE HELLEBORE (*Quibus*).—It is sold by every druggist. It is the powdered root of *Veratrum album*. Oxalic acid, to promote germination, must be in solution, and the old seeds soaked in it.

SOFTENING OLD PUTTY (*An Original Subscriber*).—Unless it has been mixed with white lead, old putty may be softened by applying to it rags dipped in a saturated solution of caustic potash, and leaving them on for twelve hours, or by rubbing a hot iron along the putty.

FRENCH BUTTER.—"In the paragraph at page 227 about the prices, the words 'twenty-four sous (2s.)' ought to have been *thirty-four sous* (1s. 5d.); then, again, the words in the next line, 'thirty sous (2s. 3d.)' ought to have been *forty-eight sous* (2s.).—P. F. K."

PAINT FOR WIRE FENCE (*A Subscriber*).—We should use the Gas-tar Varnish, directions for making which are in our No. 400, p. 159.

NAMES OF FERNS (*A Lover of Ferns*).—1 and 3 are the same; but we cannot recognise them from the specimens sent. 2. A seedling *Cassiopea hastata*. 4. *Allosorus crispus*. 5. *Asplenium bulbiferum*? 6. *Cystopteris dentata*?

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries closed June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st. Sec., C. Lawson, Esq., Anerley. Entries close July 9th.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. Nov. 26th and 27th. Sec., E. Trinder, Esq., Cirencester. Entries close Nov. 1st.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

PRESCOT. July 8th. Sec., Mr. J. F. Ollard, Prescott. Entries close June 21st.

WHITBY. July 16th and 17th. Sec. S. Burn, Esq., 1, East Terrace, Whitby. Entries close June 30th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

APPOINTMENT OF JUDGES.

A RECENT Show in the West, where the awards were so unsatisfactory as to induce us to decline their publication, leads us to observe, that there is scarcely any subject which has been so indifferently attended to as the appointment of the judges for our public exhibitions of poultry, nor one more completely deserving of every possible attention, although it cannot be denied the future well-being of every Show is mainly dependent upon the rectitude and real efficiency of the gentlemen who may be thus engaged to fulfil the many, and also arduous duties of this really thankless office. The difficulties of selection, as to poultry judges, are almost daily becoming still more apparent, from the fact, of how few, we might have said very few persons there are in the kingdom capable of awarding fairly all the prizes in the varied classes we are accustomed to meet with in our different prize-lists. That the task is indeed difficult to the most experienced poultry judge, must be evident to all parties, and requires much ready quickness of perception

and comparison, if faithfully fulfilled. How incomparably increased, then, are the difficulties that ever surround those who attempt the office, and then, when too late, find circumstances arise hitherto quite unforeseen, and for which, they, of course, were equally unprepared. Doubt, hesitation, and perplexity close around them on every side, and then it is that, without any wilful disposition to "favouritism," blunders so egregious are committed, that at least one of two charges is directed against the unfortunate adjudicator of these premiums, viz., "that he must be either guilty of partiality, or be incapable of performing the duties he has undertaken." Complaints arise on all sides, some, doubtless, groundless altogether, as, on such occasions, "the disappointed" feel induced rather to add to the clamour than to appease the ill-will already existing. Most probably the committee are appealed to, and after hearing all arguments *pro* and *con*, that committee arrive at the conclusion, "the awards of the Judges must be final," as they see no possible means of extrication from the downright difficulties by which they find themselves so very unexpectedly encircled. It is then beyond their power to act upon remedial measures, the "winners" (rightly or wrongly) strongly insist as to their indisputable right to whatever prizes have already been allotted them, and the inevitable result is, the committee are literally engulfed in complaints by way of "protests;" or, may be, the threat is laid before them of public exposure of the injustice presumed to be committed, or even lawsuits have been commenced, with the hope of enforcing different results.

The whole of these unpleasant consequences might certainly have been easily avoided, had proper discrimination been observed in the selection of the Judges in the first instance; but when the causes that produced the complaints of the exhibitors had transpired, the difficulties, of course, were afterwards insurmountable.

It is quite certain that faultless awards are by no means dependent on the numerical amount of adjudicators, but that contrariwise, where many are employed, the discrepancies are far more obvious than where two or three were engaged only. We have noticed, also, the unvarying rule (for it admits of no exception), that the time occupied in awarding the premiums is influenced in exact proportion to the numbers of parties on whom the duty depends; if few, the decisions are quickly arrived at; on the contrary, if many, the time is proportionally prolonged. The old axiom, "practice makes perfect," was never more justly applicable than to our present subject, and all things considered, such as the lessened expenditure of the Society's funds, the increased care enforced upon the Judges (where "mistakes," should they arise, *must* be borne, without resting on the shoulders of *all*, and the blame be consequently alike sub-divided), our opinions favour entirely a few competent and experienced judges, rather than numbers who unwisely rely on the convictions of their colleagues, instead of their own sufficiency and fitness for the office they have undertaken.

On many occasions of late we have noticed the great disinclination (indeed, absolute refusal to officiate at all) of gentlemen who, only a few years since, were notorious as poultry judges—whose decisions were not questioned, and whose "impartiality" was never the subject of dispute. We naturally felt somewhat curious to ascertain the motives that induced so great and unexpected a change; whether it was simply the result of individual caprice alone; or, on the contrary, their refusal arose from any cogent, though unexplained, reason.

It appears, in many cases thus investigated, to proceed exclusively from these gentlemen, even after having duly and efficiently fulfilled their duties, paid all their own travelling and hotel expenses, &c., being unable to obtain any remuneration whatever for their personal trouble, or even the REPAYMENT of the monies they themselves were thus compelled to expend. Of course, the enthusiasm of any real amateur of poultry must "damp away" under so unjust an infliction: whatever the position, if duly rendered, "the labourer is worthy of his hire." Indeed, there are but very few either willing or able to endure continual drains upon their private purse, simply to encourage poultry committees in their proposed speculations. Had not instances come to our knowledge of gentlemen travelling several hundreds of miles to

judge a Show, and finding themselves eventually the losers by the exact amount of their individual expenditure, we would not thus strongly have alluded to the subject; but such cases are not at all isolated ones, and from their multiplicity have led to the results now detailed. Incredible as it may appear, these cases have frequently occurred, even where, by pre-agreement, no expense whatever was entailed upon the Society for the actual services of the Judges themselves; and they only looked forward, as arranged, to the return of the actual outlay that was consequent upon travelling. It is almost needless to say, thus treated, it is common to all human nature "to object to its repetition;" parties of high standing, competency, and credit naturally "dwindle away as to numbers," until, at the present hour, the difficulties of obtaining a good judge have literally lapsed into a standing adage among our poultry committees.

This is, certainly, open to correction. Let every committee make good the engagements entered into prior to the Judges leaving them, then all will be well; there will no longer continue the *just* cause of complaint we have alluded to, and no doubt, ere long, the impediments in the way of obtaining first-class Judges will be altogether removed.

THORNE CATTLE AND POULTRY SHOW.

THIS was held at Thorne, on the 18th of June.

The Judges, Mr. Stead and Mr. Pearson, of Leeds, awarded the prizes as follows:—

SPANISH.—First and Second, Mr J. Richardson, Thorne.

COCHIN-CHINA.—First, Mr H. N. Fosbrooke, Thorne. Second, Messrs T. and C. Addey, Epworth.

DORKING.—First, P. Barnard, Esq., Bigby, Brigg. Second, Mr Jos. Boyes, Epworth. *Chickens*.—Mr Joseph Boyes, Epworth.

GAME (White and Piles).—Second, Mr Thomas Johnson, Hatfield. (First not awarded.)

GAME (Black-breasted and other Reds).—First, Mrs H. Sharpe, Bradford. Second, Mr Edward Auckland, Doncaster.

GAME (Duckwings and other Greys and Blues).—First, Mr R. Bentley, Hatfield, Woodhouse Moors. Second, Mr John Bleasby, Thorne. *Chickens*.—Mrs H. Sharpe, Bradford.

SILVER-SPANGLED HAMBURGH.—First, Mrs H. Sharpe, Bradford. Second, Mr Joseph Richardson, Thorne. *Chickens*.—Mr J. Richardson, Thorne.

GOLDEN-SPANGLED HAMBURGH.—First and Second, Mr Joseph Richardson, Thorne.

SILVER-PENCILLED HAMBURGH.—First, Mrs H. Sharpe, Bradford. Second, Mr Edward Auckland, Doncaster. *Chickens*.—Mrs H. Sharpe, Bradford.

ANY BREED OR CROSS.—First, Mrs Henry Moore, Doncaster. Second, Mr Edward Priestley, Bankside.

BANTAMS (Black, White, or any other colour).—First, Miss Richardson, Thorne. Second, Mr Robert Whaley, Thorne.

BEST COCK, ANY BREED OR CROSS.—First, Mr Samuel Ibbertson, Rawcliffe Pastures.

BEST TWO HENS, ANY BREED OR CROSS.—Mr George Forth, Thorne. (Grey Game.)

GANDER AND GOOSE.—First and Second, Mr Edward Appleyard, Thorne.

FOUR GIBS.—First, Mr Edward Appleyard, Thorne. Second, Miss Sarah Batty, Ditchmarsh, Thorne.

TURKEYS.—First, Mrs Brockton, Tudworth. Second, Mr E. Appleyard, Thorne.

DUCKS OF ANY BREED.—First, Mr Thomas Husband, Levels. (Second prize not awarded.)

AYLESBURY DUCKS.—First and Second, Pelham Barnard, Esq., Bigby, Brigg.

MUSCOVY DUCKS.—First, Mr George Goody, Thorne. Second, Mr John Birtwistle, Levels.

GUINEA FOWLS.—First, Miss Harnew, Levels. Second, Mr Edward Priestley, Bankside.

PIGEONS.

CARRIERS.—Mr Wm. Harrison, Belton.

CROPPERS.—Miss Richardson, Thorne.

TUMBLERS.—Miss Richardson, Thorne.

JACOBINS.—Mr W. Harrison, Belton.

NUNS.—Mr W. Whitelocke, Bawtry.

TRUMPETERS.—Messrs T. and C. Addey, Epworth.

TURDITS.—Mr William Dale, Doncaster.

FANTAILS.—Mr George Watson, jun., Hatfield Brick-yard.

ANY OTHER VARIETY.—Messrs T. and C. Addey, Epworth. (Barbs.)

POULTRY AT THE NORFOLK AGRICULTURAL SHOW.

On Friday, the 20th, the Meeting of the Norfolk Agricultural Society was held at Norwich. Poultry, which was discontinued last year, was now resumed, and with but indifferent success, as the entries were very few. There was great competition in everything else. Steam implements of all sorts were puffing and blowing; every breed of cattle was well represented; sheep were numerous and good; pigs were stronger in numbers than in excellence.

Horses were so many and so good, that the Judges were hours in awarding the prizes. The agricultural nature of the Show was maintained by a novel sight, which was, parties of men engaged on the ground shearing sheep for a prize.

We suppose Poultry is not yet thought part of farm-stock in Norfolk. We say *yet*, because the time must come; and there was even a shadowing of it, for the *Dorkings* were the most numerous.

It appears an anomaly that while professional men and tradesmen, living in towns or their suburbs, take great trouble and incur much expense in rearing poultry, which they often do successfully, both for exhibition and profit, those who have everything in their favour care nothing for poultry.

Some regretted they had not sent their birds, as they had better than any exhibited. Others did not send because they thought they had no chance of success. Again, some had been too busy; others had forgotten the Show; but all promised to send next year.

The Rev. T. L. Fellowes took many of the prizes, and in some classes the result would have been the same had the competition been greater. Mr. Gilbert, of Kensington, was successful in both classes of *Spanish*. He showed excellent birds. Mr. G. Sexton carried off both prizes for adult *Dorkings*. He was also successful with *Game*. Norfolk, once the great *Turkey* county, sent only one pen.

Mr. Baily, of London, was the Judge.

BRISTOL AND CLIFTON POULTRY EXHIBITION.

THIS took place at Clifton, on the 25th and 26th of June. E. Hewitt, Esq., of Sparkbrook, near Birmingham, was Judge, and awarded the Prizes as follows. Our notes on the Show shall be published next week.

SPANISH.—First and Cup, Captain Hornby, R.N., Knowsley Cottage, Prescott. Second, Mr John S. Henry, Woodlands, Crumpsall, near Manchester. Highly Commended.—Mr William Plummer, Brislington, near Bristol. Mr John S. Henry, Woodlands, Crumpsall, near Manchester. Highly Commended.—Mrs Lydia C. Stow, Bredon, near Tewkesbury. (The class very good.) *Chickens*.—First, Mr Daniel Parsley, Rock Cottage, Stapleton Road, Bristol. Second, Captain Hornby, R.N., Knowsley Cottage, Prescott. Highly Commended.—Mr Parkins Jones, High-street, Fulham, near London.

DORKING (Coloured).—First, Captain Hornby, R.N., Knowsley Cottage, Prescott. Second, Mr G. Botham, Wexham Court, Slough. Highly Commended.—Mrs Henry Fookes, Whitechurch, near Blandford. *Chickens*.—First and Cup, Mr William Bromley, Smithfield, Birmingham. Second, Miss Steele Perkins, Sutton Coldfield, near Birmingham. Highly Commended.—Mr John K. Fowler, Prebendal Farm, Aylesbury. Mr William Bromley, 19, Smithfield, Birmingham. Mr Henry Drew, Peamore, near Exeter. (An unusually good class.)

DOAKING (White).—First and Cup, Mr N. Antill, Portsea, Hants. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater. Commended.—Mr Joseph Clift, Dorking, Surrey. Mrs Henry Fookes, Whitechurch, near Blandford. *Chickens*.—First and Second, Mr William Manfield, jun., Dorchester, Dorset.

COCHIN-CHINA (Cinnamon and Buff).—First and Cup, Mr G. A. Gelderd, Akridge End, Kendal. Second, Rev. Grenville Hodson, North Petherton, near Bridgewater. Highly Commended.—Mr Thomas Hincks, Penn Fields, Wolverhampton. Mr James Crane, jun., Tolpuddle, near Dorchester. Commended.—Rev. T. H. Roper, Eton, Windsor. Mr Henry Lucas Bean, Ascott, near Glastonbury. *Chickens*.—First, Rev. Stephen Allen, D.D., Rectory, Walton in Gordano, near Bristol. Second, Mrs Henry Fookes, Whitechurch, near Blandford.

COCHIN-CHINA (Brown and Partridge-feathered).—First, Mr George C. Adkins, West House, Edgbaston. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater. Highly Commended.—Mrs Ford, Ide, near Exeter. *Chickens*.—First, Rev. G. F. Hodson, North Petherton, near Bridgewater. Second, Mr John Rodbard Rodbard, Aldwick Court, Langford, near Bristol. Commended.—Mrs B. J. Ford, Ide, near Exeter. (A superior class.)

COCHIN CHINA (White or Black).—First, Mr John R. Rodbard, Aldwick Court, Langford, near Bristol. Second, Mr Robert Chase, Moseley Road, Birmingham. Highly Commended.—Mr John Edwards, Mapplebeck, 150, Moseley Road, Birmingham. Mr Francis Edwards,

Bulstrode Park. *Chickens*.—First, Mr John K. Fowler, Prebendal Farm, Aylesbury. Second, Mr Robert Chase, Moseley Road, Birmingham.

BRABMA POOTRA FOWLS (Dark).—First, Mr G. Botham, Wexham Court, Slough. Second, Mr John Hopkins, Higford, near Shiffnal. *Chickens*.—First, Mr G. Botham, Wexham Court, Slough, (Second withheld.)

BRABMA POOTRA FOWLS (Light).—First and Cup, Mr R. H. Bush, Ashton Lodge, near Bath. Second, Miss Elizabeth Watts, Monk Barns, Hampstead, near London. *Chickens*.—First, Mr William Manfield, jun., Dorchester, Dorset. (Second, no competition.)

GAME FOWL (White and Piles).—(Prizes withheld.) *Chickens*.—(First withheld.) Second, Mr Henry Shield, Preston, near Uppingham, Rutlandshire.

GAME FOWL (Black-breasted and other Reds).—First and Cup, Mr Henry Worrall, Knotty Ash House, near Liverpool. Second, Mr John R. Rodbard, Aldwick Court, Langford, near Bristol. Highly Commended.—Mr Henry Shield, Preston, Rutlandshire. Mr George C. Adkins, West House, Edgbaston, near Birmingham. Commended.—Mr Charles Edwards, Brockley Court, near Bristol. *Chickens*.—First, Mr Samuel Matthew, Chilton Hall, Stowmarket. Second, Mr William Buncombe, Taunton.

GAME FOWL (Duckwings, Greys, and Blues).—First, Mr John Rodbard Rodbard, Aldwick Court, Langford, near Bristol. Second, Mr Samuel Matthew, Chilton Hall, Stowmarket. Highly Commended.—Mr William Buncombe, Taunton. Commended.—Mr Edward Miles, The Lawn, Shirehampton, near Bristol. *Chickens*.—First, Mr William Buncombe, Taunton, Somersetshire. Second, Mr Henry Shield, Preston, Rutlandshire.

GOLDEN-SPANGLED HAMBURGH.—First, Mr Charles Edward Coleridge, Eton, Windsor. Second, Mr Henry Hill, Selly Oak, near Birmingham. *Chickens*.—First, Mr Rice R. Clayton, Hedgerley Park, Slough. (Second withheld.)

SILVER-SPANGLED HAMBURGH.—First and Cup, Mr Josiah B. Chune, Green Bank, Coalbrookdale, Shropshire. Second, Mr William Ludlam, North Holme-street, Bradford, Yorkshire. Highly Commended.—Mr William Joshua, Perrotts Brook, near Cirencester. *Chickens*.—First, Mr J. Kilverter Bartrum, 6, Richmond Hill, Bath. Second, Mr Rice R. Clayton, Hedgerley Park, Slough.

GOLDEN-PENCILLED HAMBURGH.—First, Mr J. B. Chune, Green Bank, Coalbrookdale, Shropshire. Second, Mr James Dixon, North Park, Horton, near Bradford, Yorkshire. *Chickens*.—First, Mr John Marshall, Belmont, Taunton. Second, Mr Rice R. Clayton, Hedgerley Park, Slough.

SILVER-PENCILLED HAMBURGH.—First and Cup, Mrs T. H. Roper, Eton, near Windsor. Second, Mr Edward Archer, Malvern. Highly Commended.—Mr James Newick, Hinton St. George, near Ilminster. *Chickens*.—First, Mr James Newick, Hinton St. George, near Ilminster. Second, Mr Edward Archer, Malvern.

POLISH FOWL (Black with White Crests).—First, Mr George C. Adkins, West House, Edgbaston, near Birmingham. Second, Mr Thomas Battye, Brown Hill, Holmbridge, near Huddersfield. Commended.—Mr George Smith Fox, The Court, Wellington. *Chickens*.—First and Second, Mr Thomas Pantton Edwards, Lyndhurst, Hants.

POLISH FOWL (Golden).—First and Cup, and Second, Mr R. H. Bush, Ashton Lodge, near Bath. Commended.—Mr Charles Edward Coleridge, Eton, Windsor. *Chickens*.—First, Mr Charles Edward Coleridge, Eton, Windsor. Second, Mr Thomas Lyne, Malmesbury, Wilts.

POLISH FOWL (Silver).—First, Mr Charles Edward Coleridge, Eton, Windsor. Second, Mr George C. Adkins, West House, Edgbaston, near Birmingham. Commended.—Mr H. G. K. Breavington, Vicarage Farm, Hounslow, Middlesex. *Chickens*.—First and Second, Mr Thomas P. Edwards, Lyndhurst, Hants.

ANY OTHER DISTINCT BREED.—First and Cup, Mr James Leighton, 183, High Street, Cheltenham (Malay). Second, Mr Charles Edw. Coleridge, Eton College, Windsor (White Polands). Highly Commended.—Mr Walter Hugo, Albert Villa, St. Leonard's, Exeter (Black Pheasant). Mr Frederick G. Dutton, Lydiard House, Swindon, Wilts (Black or Brassy Winged Game). Misses C. and J. Bush, Ashton Lodge, near Bath (Ghondookes). Commended.—Mr Charles Coles, Fareham, Hampshire (Andalusian). (A very interesting class.) *Chickens*.—First, Mr Charles Coles, Fareham, Hampshire (Andalusian). Second, Mr William Joshua, Perrotts Brook, near Cirencester (Chinese Silk Fowls).

BANTAMS (Gold Laced).—First, Rev. G. F. Hodson, North Petherton, near Bridgewater. Second, Rev. G. S. Cruwys, Cruwys Morchard Court, Tiverton. Commended.—Mr Thomas Hincks, Penn Fields, Wolverhampton.

BANTAMS (Silver-laced).—First, Rev. G. S. Cruwys, Cruwys Morchard Court, near Tiverton. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater.

BANTAMS (Black).—First, Mr Matthew Ridgway, Dewsbury, Yorkshire. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater. Highly Commended.—Mr Matthew Ridgway, Dewsbury, Yorkshire. (A most superior class.)

BANTAMS (White).—First, Rev. G. F. Hodson, North Petherton, near Bridgewater. Second, Mr George C. Adkins, West House, Edgbaston, near Birmingham.

BANTAMS (any other Variety).—First and Cup, Mr Thomas James Cottle, Pulteney Villa, Cheltenham (Black Breasted and Red Game). Second (not in Catalogue, numbered on Pen 332 A), E. Stansfield, Esq., Dewsbury (Black Breasted Red Game Bantams). Highly Commended.—Miss Elizabeth Watts, Monk Barns, Hampstead, near London (Calcutta Bantams). Mr Parkins Jones, High Street, Fulham, near London (Calcutta Bantams). Miss Marianne E. Winthrop, Clifton Park.

GESE (White, Grey, or Mottled).—First and Cup, Mr Henry Graham Lloyd, Manor House, Abbot's Leigh, Bristol. Second, Mr John K. Fowler, Prebendal Farm, Aylesbury. Highly Commended.—Mr William Manfield, jun., Dorchester, Dorset. Commended.—Mrs Henry Fookes, Whitechurch, near Blandford.

TURKEYS (any Variety).—First and Cup, Mr John R. Rodbard, Aldwick Court, Langford, near Bristol (Cambridge). Second, Mr Charles Edwards, Brockley Court, near Bristol (Cambridge). Highly Com-

mended.—Miss Julia Milward, Newton St. Loe, near Bath (French). Mrs Henry Fookes, Whitechurch, near Blandford.

DUCKS (White Aylesbury).—First and Cup, Mr John K. Fowler, Prebendal Farm, Aylesbury. Second, Mrs B. J. Ford, Ide, near Exeter. Highly Commended.—Mr William Lamb, Purton, Swindon, Wilts. Mr Henry Lucas Bean, Ashcott, near Glastonbury.

DUCKS (Rouen).—First, Mr John K. Fowler, Prebendal Farm, Aylesbury. Second, Mrs Henry Fookes, Whitechurch, near Blandford.

DUCKS (Buenos Ayres).—First, Mr John Marshall, Belmont, Taunton.

DUCKS (any other Variety).—First, Mr George C. Peters, Moseley, near Birmingham. (White Vesuvian or Musk Ducks.) Second, Mrs Sarah Rebecca Herbert, Powick, near Worcester. Highly Commended.—Mr C. Edwards, Brockley Court, near Bristol. (Wild Ducks.)

PIGEONS.

CARRIERS.—First, Mr D. S. Oliver, Temple-street, Bristol. Second, Mr George C. Adkins, West House, Edgbaston, near Birmingham. (The class highly approved.)

ALMOND TUMBLERS.—First and Second, Mr George C. Adkins, West House, Edgbaston, near Birmingham.

POUTERS or CAOPPERS.—First, Mr Edward A. Lingard, Birmingham. Second, Mr George C. Adkins, West House, Edgbaston, near Birmingham.

BALDS or BEARNS.—First, Mr C. R. Titterton, Birmingham. Second, Mr Francis Alfred Lavender, Biddenham, near Bedford. (A remarkably good class.)

MOTTLED TUMBLERS.—First, Mr Thomas Jas. Cottle, Pulteney Villa, Cheltenham. (Second, no competition.)

OWLS.—First, Mr Harrison Weir, Lyndhurst-road, Peckham, near London. (Blue.) Second, Mr S. Summerhayes, Taunton.

NUNS.—First and Second, Mr S. Summerhayes, Taunton.

TURBITS.—First, Mr S. Summerhayes, Taunton. Second, Mr John Edwards Mapplebeck, 105, Moseley-road, Birmingham.

TRUMPETERS.—First, Mr S. Summerhayes, Taunton. Second, Mr C. R. Titterton, Birmingham.

ARCHANGELS.—First, Mr George C. Adkins, West House, Edgbaston, near Birmingham. Second, Mr C. R. Titterton, Snow-hill, Birmingham.

JACOBINS.—First, Mr Charles Bluett, Taunton. (White.) Second, Mr George C. Adkins, West House, Edgbaston, near Birmingham.

FANTAILS.—First, Mr John Marshall, Belmont, Taunton. Second, Mr G. C. Adkins, West House, Edgbaston, near Birmingham.

RUNTS.—First, Mr Edward A. Lingard, Birmingham. Second, Mr George C. Adkins, West House, Edgbaston, near Birmingham.

DRAGONS.—First, Mr C. R. Titterton, Snow-hill, Birmingham. Second, Mr S. Summerhayes, Taunton.

BARRES.—First, Mr George C. Adkins, West House, Edgbaston, near Birmingham. Second, Mr Harrison Weir, Lyndhurst-road, Peckham, near London.

ANY OTHER NEW OR DISTINCT VARIETY.—First, Mr Francis Alfred Lavender, Biddenham, near Bedford. (Frill Backs.) Second, Mr Thomas James Cottle, Pulteney Villa, Cheltenham. (Icelanders.)

EXTRA STOCK.—Highly Commended.—William Almond, Clifton, pair of black Australian Swans.

OUR LETTER BOX.

HEDGE FOR POULTRY-YARD.—"I shall be much obliged if you can inform me of any quick-growing shrub, or anything sufficient to exclude poultry from a garden; also the proper time to set it, with the mode of culture, and where to procure it. I bought some netting a short time back, but it is now quite rotten; I wish, therefore, to replace it with something more durable. And if I may trespass on that kind and patient treatment of subscribers which belongs to THE COTTAGE GARDENER, I will also ask you to inform me of something which will effectually destroy *Nettles* in a shrubbery under some trees.—AN OLD SUBSCRIBER."

[A hedge of the common *Privet*, we have always thought, would be in better taste than wire divisions for a poultry-yard. At all events, it is the best for the purpose, and is used by the incumbent of Surbiton for that very purpose. Plant the longest plants of it you can buy, a foot apart, next September or October; the place to be trenched on purpose for the hedge—say a space not less than a yard wide and two feet deep. We once planted a hedge of the kind with plants four feet high, and very loose and straggling they were, so much so that we had to put down a stake in the centre of the hedge at every ten feet, and run a rope yarn from stake to stake, to which the *Privet* was tied, to keep the plants in anything like shape for the first twelve months. After that they bore the shears, and did well. But if you are near a good nursery, you might get a *Privet* hedge ready made. If so, contract with the nurseryman to move it for you, he to be responsible for it growing. Indeed, we see clearly enough that your cheapest course would be to get some one who understands the thing properly to trench the ground and plant the *Privet* for you.]

There is nothing which will "effectually destroy *Nettles*" when they grow among other plants except forking up their roots. *Nettles* are the easiest weeds to get rid of in dry ground, as their roots do not run deep. First cut off the tops with an old hook, then with a three-pronged fork let a careful man dig up the roots and burn them.]

COCHIN-CHINA CHICKENS AT WINNSOR.—"I perceive by your notice of the Windsor Poultry Show that you state, 'The Cochin-Chinas were worthy of the best days of the class;' and you go on to state that 'Lord de Blaquiere swept the *Chicken* class.' As I was the fortunate taker of the first and second prizes for White Cochin chickens, I think it but right that I should have some little credit for it.—JOHN K. FOWLER, Prebendal Farm, Aylesbury."

[Our reporter should have confined his observation on Lord de Blaquiere's success to the Buff class. At page 196 we stated that Mr. Fowler took the two prizes in the class for White Cochin-China chickens.]

ANERLEY POULTRY SHOW.—In answer to "Fairplay," we have a letter from Mr. Wells, the Secretary, in which he says, "The Regulations will, in all cases, be strictly adhered to."

LONDON MARKETS.—JUNE 30TH.

COVENT GARDEN.

The market has been very animated during the past week, the hot weather of the last few days having sent in an abundant supply of both *Fruit* and *Vegetables*, and prices are, consequently, receding. Importations from the Continent have much slackened, there being very little sent worth notice. Supply of *Old Potatoes* very heavy.

POULTRY.

Our quotation is rendered more difficult this week on account of the heat of the weather. Fresh Poultry and that which, coming from the vicinity of London, is likely to keep well, make an increased price; while that which is giving way before the heat is with difficulty saleable.

Large Fowls 6s. 0d. to 7s. 0d. each.	Quails . . . 2s. 0d. to 2s. 3d. each.
Smaller do 4s. 0d. to 5s. 6d. "	Leverets . . 4s. 0d. to 5s. 6d. "
Chickens . . 2s. 9d. to 4s. 0d. "	Pigeons . . . 10d. to 1s. 0d. "
Goslings . . . 6s. to 6s. 6d. "	Rabbits . . . 1s. 5d. to 1s. 6d. "
Ducklings 3s. 6d. to 4s. 0d. "	Wild Ditto . . 10d. to 1s. 0d. "
Guinea Fowl 0s. 0d. to 0s. 0d. "	Dottrell . . 0s. 0d. to 0s. 0d. "
Plover's Eggs, in bulk	0s. to 0s. 0d.

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CRYSTAL PALACE.

SECOND GRAND FLOWER SHOW, 1856.—WEDNESDAY AND THURSDAY, June 25th and 26th.
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 Mr John Davis, Nurseryman, Barnet, for a box of 12 lbs. of Grapes.
 Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham, for a Collection of 3 kinds of Cherries, 1 dish of each, in fifties.
 Mr R. Turnbull, Gardener to the Duke of Marlborough, Blenheim, for a Collection of 3 dishes of Strawberries.
 Mr Thomas Page, Gardener to W. Leaf, Esq., Streatham, for 4 Vines in pots, with ripe fruit.
 Messrs Lane & Son, Nurserymen, Great Berkhamstead, for Plums, Apricots, and Cherries in pots, 4 plants.

PRIZES OF 3*l*. EACH TO

Mr John Povey, Gardener to Rev. J. Thorneycroft, Thorneycroft Hall, Congleton, for a Providence Pine Apple.
 Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham, for a Providence Pine Apple.
 Mr Jno. Burn, Gardener to the Hon. Colonel Pennant, Penrhyn Castle, Bangor, for a Queen Pine Apple.
 Mr W. Barron, Singleton, Swansea, for a Queen Pine Apple.
 Mr John Davis, Nurseryman, Barnet, for a Jamaica Pine Apple.
 Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham, for a Providence Pine Apple.

Crystal Palace, June 30th, 1856.

PRIZES OF 15*s*. EACH TO

Mr John Hally, Nurseryman, Blackheath, for 12 Exotic Ferns in pots.
 Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for New or Rare Plants in flower (Hoya species, Japan).
 Mr R. Parker, Paradise Nursery, Holloway, for New or Rare Plants in flower (Cuttleya species).
 Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for New or Rare Plants in flower (Thibaudia species).
 Mr John Green, Gardener to Sir E. Antrobus, Bart., Lower Cheam, for New or Rare Plants in flower (Erica eximia superba).
 Mr R. Roser, Gardener to J. Bradbury, Esq., Streatham, for New or Rare Plants in flower (Erica Paxtoni).
 Messrs Veitch & Son, Nurserymen, Exeter and Chelsea, for New or Rare Plants (Aralia Japonica).

CUT-FLOWERS.

Bloomfield Hall, Norwood, for 25 distinct varieties of Roses (3 trusses of each).

A PRIZE OF 14*s*. TO

Mr E. P. Francis, Nurseryman, Hertford, for 24 varieties of Roses (single blooms).

A PRIZE OF 1*l*. TO

Mr George Bradstock, Gardener to T. Anderson, Esq., Wallington Lodge, Carshalton, for 25 distinct varieties of Roses (3 trusses of each).

A PRIZE OF 15*s*. TO

Mr E. Hollamby, Nurseryman, Tonbridge

FRUIT.

land, Trentham, for a single dish of Black Hamburgh Grapes.

Mr C. Smith, Gardener to Arthur Anderson, Esq., Norwood Grove, for a single dish of Black Hamburgh Grapes.
 Mr John Davis, Nurseryman, Barnet, for a single dish of Muscat Grapes.
 Mr W. Forsyth, Gardener to Baron Rothschild, Ealing, for a single dish of Grapes, Sweetwater.
 Mrs Hindle, Stoke Newington, for a box of 12 lbs. of Grapes.
 Mr E. Spary, Queen's Grapenies, Brighton, for a box of 12 lbs. of Grapes.
 Mr S. Snow, Gardener to the Earl De Grey, Wrest Park, for a single dish of Peaches, of one kind.
 Mr John Davis, Nurseryman, Barnet, for a single dish of Nectarines, of one kind.

PRIZES OF 2*l*. EACH TO

Mr John Beale, Gardener to Abel Smith, Esq., Ware, for a Collection of three Pine Apples.
 Mr Joseph Gilham, Nurseryman, Isleworth, for a Providence Pine Apple.
 Mr R. Jones, Gardener to the Dowlais Iron Company, Dowlais, for a Queen Pine Apple.
 Mr George Young, Gardener to W. Stone Esq., Dulwich Hill, for a Collection of 3 dishes of Grapes, distinct kinds.
 Mr W. Hill, Gardener to R. Sneyd, Esq., Keele Hall, Staffordshire, for a single dish of Black Hamburgh Grapes.
 Mr W. Hudson, Gardener to Mrs R. Barchard, Wandsworth, for a single dish of Black Hamburgh Grapes.
 Mr W. Taylor, Gardener to J. Coster, Esq., Streatham, for a single dish of Muscat Grapes.
 Mr G. Blake, Wickham Hall, Bromley, for a single dish of Grapes, Sweetwater or Muscadine.
 Mr Peter Kay, Finchley, for a box of 12 lbs. of Grapes.
 Messrs Mitchell & Co., Brighton, for a box of 12 lbs. of Grapes.
 Mr R. Turnbull, Gardener to the Duke of Marlborough, Blenheim, for a single dish of Peaches, of one kind.
 Mr W. P. Ayres, Gardener to Lord Southampton, Whitebury Lodge, Towcester, for a single dish of Nectarines, of one kind.
 Mr R. A. Dalrymple, Pontypool Park, Monmouthshire, for a Green-fleshed Melon.
 Mr T. Bailey, Sherdloes, Amersham, for a Scarlet-fleshed Melon.
 Mr S. Snow, Gardener to Earl De Grey, Wrest Park, for a single dish of Figs, consisting of 10 Fruits.
 Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham, for a single dish of White Cherries.
 Mr David Ferguson, Stowe, for a single dish of Black Cherries.
 Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham, for a single dish of Plums.

PRIZES 15*s*. EACH TO

Mr Glendinning, Nurseryman, Chiswick, for New or Rare Plants (New Species of Larch, North China).
 Mr Thomas Childs, Gardener to A. Secretan, Esq., Thornton Heath, Croydon, for a collection of 12 Achimenes.
 Mr J. Shrimpton, Gardener to A. Doxat, Esq., Putney Heath, for a collection of Seedling Verbenas.
 Mr J. Bates, Nurseryman, Oxford, for 6 Calceolarias in pots, distinct varieties.
 Mr N. Gaines, Nurseryman, Battersea, for 6 Calceolarias in pots, distinct varieties.
 Mr Charles Turner, Royal Nursery, Slough, for Seedling Pelargoniums of 1855 and 1856 (Miss Foster).
 Mr N. Gaines, Nurseryman, Battersea, for Seedling Pelargoniums of 1855 and 1856 (Princess Royal).

Wells, for 24 varieties of Roses (single blooms).

PRIZES OF 10*s*. EACH TO

Mr George Bradstock, Gardener to T. Anderson, Esq., Wallington Lodge, Carshalton, for 24 varieties of Roses (single blooms).
 Mr G. Wortley, Gardener to Mrs Maubert, Norwood, for 24 vars. of Roses (single blooms).
 Mr G. T. Brush, Gardener to J. Tritton, Esq., Bloomfield Hall, Norfolk, for 24 varieties of Roses (single blooms).
 Mr James August, Beddington, for 24 varieties of Roses (single blooms).

PRIZES OF 2*l*. EACH TO

Mr G. Wortley, Gardener to Mrs Maubert, Norwood, for a single dish of Strawberries.
 Mr R. Turnbull, Gardener to the Duke of Marlborough, Blenheim, for Seedling St. Peter Grapes.
 Mr John Monro, Gardener to Mrs Oddie, Colney House, St. Albans, for Peaches and Nectarines.
 Mr W. Hill, Gardener to R. Sneyd, Esq., Keele Hall, Staffordshire, for Black Prince Grapes.
 A PRIZE OF 1*l*. 10*s*. TO
 Mr John Monro, Gardener to Mrs Oddie, Colney House, St. Albans, for a single dish of Plums.

PRIZES OF 1*l*. 5*s*. EACH TO

Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham, for a single dish of Black Cherries.
 Mr J. Cuthill, Camherwell, for a single dish of Strawberries.
 PRIZES OF 1*l*. EACH TO
 Mr W. Davis, Velindra Gardens, near Cardiff, for a Queen Pine Apple.
 Mr John Burn, Gardener to the Hon. Colonel Pennant, Penrhyn Castle, Bangor, for a collection of Pine Apples.
 Mr John Davis, Nurseryman, Barnet, for a single dish of Black Hamburgh Grapes.
 Mr Charles Smith, Gardener to Arthur Anderson, Esq., Norwood Grove, for a single dish of Grapes, Sweetwater or Muscadine.
 Messrs Mitchell & Co., Nurserymen, Brighton, for a single dish of Peaches, of one kind.
 Mr Thomas Frost, Gardener to E. L. Betts, Esq., Preston Hall, Maidstone, for a single dish of Peaches, of one kind.
 Mr W. Hill, Gardener to R. Sneyd, Esq., Keele Hall, Staffordshire, for a single dish of Nectarines, of one kind.
 Mr J. Tegg, Gardener to R. Hutton, Esq., Putney Park, for a Green-fleshed Melon.
 Mr C. Ewing, Gardener to O. F. Meyrick, Esq., Bodorgan, Holyhead, for a single dish of Figs, consisting of 10 Fruits.
 Mr E. R. Carpenter, Bare Hall Gardens, near Birmingham, for Seedling White Grapes.

PRIZES OF 15*s*. EACH TO

Mr R. A. Dalrymple, Pontypool Park, Monmouthshire, for a Queen Pine Apple.
 Mr John Monro, Gardener to Mrs Oddie, Colney House, St. Albans, for a single dish of Peaches, of one kind.
 Mr W. Taylor, Gardener to J. Coster, Esq., Streatham, for a Green-fleshed Melon.
 Mr C. Ewing, Gardener to O. F. Meyrick, Esq., Bodorgan, Holyhead, for a Green-fleshed Melon.
 Mr S. Snow, Gardener to Earl De Grey, Wrest Park, for a Green-fleshed Melon.
 Mr E. R. Dalrymple, Pontypool Park, Monmouthshire, for Strawberries.

A PRIZE OF 10*s*. TO

Mr M. Clarke, Gardener to C. Webb, Esq., Hoddesdon, for Citrons.

(By Order.)

G. GROVE, Secretary,

WEEKLY CALENDAR.

D M	D W	JULY 8—14, 1856.	WEATHER NEAR LONDON IN 1855.									
			Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
8	TU	Hesperia Linea.	30.025—29.867	79—55	S.E.	—	55 a 3	15 a 8	11 3	6	4 6	190
9	W	Egeria Craboniformis.	29.775—29.599	80—59	E.	14	56	14 11	12 7	7	4 5	191
10	TH	Egeria Culiciformis.	29.608—29.585	82—59	S.W.	48	57	13 11	23 3	8	5 4	192
11	F	Egeria Formiciformis.	29.541—29.516	71—55	N.	1.07	58	12 11	36 9	9	5 12	193
12	S	Zeuzera Cesculi.	29.840—29.747	81—52	N.W.	—	5	12 11	51 10	10	5 19	194
13	SUN	8 SUNDAY AFTER TRINITY.	29.959—29.931	79—55	S.W.	—	1V	11 morn.	11	11	5 26	195
14	M	Gastropacha quercifolia.	29.858—29.822	76—53	S.W.	29	1	10 0	13 12	12	5 33	196

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 74.5°, and 51.4°, respectively. The greatest heat, 93½°, occurred on the 14th, in 1847; and the lowest cold, 38° on the 10th, in 1851. During the period 116 days were fine, and on 80 rain fell.

HORTICULTURAL SOCIETY OF LONDON.

Special General Meeting, held June 24, 1856. Present the following Fellows, viz.:—

W. R. Baker, D. Beaton, J. J. Blandy, H. G. Bohn, James Browning, F. Cass, G. Charlwood, A. Chandler, Col. Chaloner, Rev. J. C. Clarke, J. Crawley, Gen. Sir A. Dalrymple, Bart., Col. Ferguson, M.P., J. Gadesden, J. B. Glegg, A. Glendinning, J. H. Good, S. H. Godson, W. L. Gower, James Gray, Dr. Henderson, W. Hervey, E. Johnston, T. Kelsall, Right Hon. T. P. Kennedy, Sir H. Lambert, Bart., Chas. Leach, J. Lee, C. Loddiges, Professor Lindley, P. McArthur, Robt. Osborn, Geo. Paul, John Philips, Alex. Rowland, Dr. Royle, W. Wilson Saunders, R. H. Solly, J. Spenceer, J. M. Strachan, Jas. Veitch, jun., C. B. Warner, J. C. Whiteman, and John Wood.

The following Report from the Council was read:—

The wishes of the last Special General Meeting have been complied with. The subscription for raising the sum of £5000 for the purpose of trying the experiment of maintaining the Garden has been kept open till this day, and now amounts to £3267 2s. This sum has been promised by 200 out of the 750 Fellows of the Society, and by 29 strangers, and is in almost all cases made conditional upon the whole sum of £5000 being provided. The Council had hoped that the readiness with which their appeal was at first responded to would be the forerunner of complete success, to secure which they put in action advertisements, circular letters, and personal applications. Since, however, the public has not sufficiently responded to the appeal that has been made, the time has now arrived when action must take the place of discussion, and the Society must decide upon its future course.

It would undoubtedly be a grievous calamity if the Garden, which has now at the cost of so much money been brought to its present state of efficiency, were to be relinquished; and the present Council feel themselves bound to exhaust all other resources before they irrevocably consent to surrender the lease, and realise the property at Chiswick.

While, therefore, they announce the failure of the attempt to secure the necessary funds by mere voluntary subscription, they must also add that it seems to them *advisable to realise other property before determining to break up the Garden*; and they have therefore taken into consideration the possibility of selling the lease of the house in which we are now assembled, and finding a place of business elsewhere. It is true that the proceeds of the sale of the house must be applied to the discharge of the securities of the Corporation, unless some new arrangement can be made with those who hold such securities, and that little immediate relief would be experienced by the measure; but, on the other hand, the Council hope that if the Corporation debt were seriously reduced, a part at least of the subscriptions already announced would then be allowed to go to the maintenance of the Garden, although the condition under which they were obtained shall not have been fulfilled, and that such further sum as may be required might be raised by the issue of Corporation bonds upon the security of the Garden and the remaining corporate property.

It is true that by the sale of the house in Regent Street little improvement may be effected in the income of the Society, the annual cost of new premises being equal to the balance of interest payable for the debt secured by the house itself. The Council, however, think that under any

circumstances something may be gained by the exchange. They also observe that Government has assigned apartments at the public charge in Burlington House to the Linnean and Chemical Societies, as well as to the Royal Society, which removes from Somerset House, thus recognising the claims of other chartered scientific bodies to similar accommodation. Under these circumstances they cannot but entertain a hope that an association which has exhausted itself in works of the greatest social value, by encouraging improvements in the all-important arts of cultivation, the introduction of new fruits, new esculents, and new ornamental plants, will have its claims favourably received by Her Majesty's Government, and they trust that an application which they have preferred for rooms in Somerset House or elsewhere will be successful. The difficulties of the Society would be much diminished if this most desirable object could be attained, for the interest now paid upon our fixed debt would then become available for carrying out the purposes of the Society.

The Council, however, feel as strongly as any one the indispensable necessity of augmenting the fixed income of the Society; in the absence of which all plans for securing the permanence of the institution must be at least precarious, if not abortive. It is not to be doubted that the present rate of subscription is too high; and the Council entirely agree with those who urge the necessity of a considerable reduction in the annual subscription. If practicable, £2 2s. would be better than £3 3s., as £3 3s. would be than £4 4s., the latter sum being still paid by those only who desire to retain privileges commensurate with such an amount. It is thought that many will desire to continue that subscription, that others will consent to split their present four guineas into two, and, should further arrangements be carried out, the Council will be prepared to propose some of the methods suggested for effecting this reduction of subscription with as little immediate detriment as possible. They trust that eventually the change will have been found extremely beneficial; but this can only be the result of time. When, however, it is seen that the action of the Society continues in vigour, that its means are steadily applied to the advancement of horticulture, and that all which is wanted to increase its utility is increased funds, the Council confidently believe that friends enough of gardening are to be found in this great country to provide amply the means required for such important purposes as those within the scope of the Society. In whatever changes may be effected the Council would in no degree curtail the existing privileges of Fellows; on the contrary, they would desire to extend them by rendering the library more attractive, and by giving the Garden the most scientific and practical character attainable.

Many observe that the Society has become too much an association for the purposes of Exhibition, and that objects of display have absorbed means that would have been better applied to practical horticulture. In this view the present Council in some measure concur; but it must be remembered that the urgent pecuniary necessities of the Society first caused the system of exhibiting to be established, and that such necessities have never ceased to exist; and even now it is the belief of many gentlemen that the exhibition of plants must be the mainstay of the Society. The importance of Exhibitions is incontestable, for they afford the readiest means of displaying progress; but it becomes daily more doubtful whether exhibitions such as those at Chiswick have been, will continue to be desirable in connection

with this Society. They are springing up everywhere; the last number of the *Gardeners' Chronicle* contains advertisements from Sydenham, Maidstone, Chatteris, the Midland Counties, Chertsey, Chelsea, the Regent's Park, Hereford, and Watford—excellent symptoms of the progress of gardening, but not favourable to the re-establishment for the present of Exhibitions at Chiswick, where our bad position incapacitates us from contending with places more favourably situated. The Council, however, do not altogether abandon the idea of holding Exhibitions in the Garden if it is preserved; on the contrary, they would be glad to revive them should a favourable opportunity present itself; but that revival would involve a material change of plan, and would have to be made with a view to the gratification of the Fellows and their friends rather than that of the public at large. Such meetings might thus, indeed, become more exclusive, but they need not be the less agreeable and instructive on that account. Nor would they be less useful if converted into social reunions, rather than indiscriminate public assemblages. The progress of gardening might be demonstrated by the contents of the Garden itself, and by the contributions of those who cultivate plants for their own sake, and not with the special object of occasional display.

Such are the views of the present Council; they have been formed in the hope of reconciling the interests of horticulture, the objects of the charter, and the personal wishes of the Fellows, so as to secure the permanence of this great institution. What may be possible under future and altered circumstances can only be determined as changes progress; but the Council trust that the views they take are such as justify them in asking the Meeting now to entrust them with that freedom of action in the absence of which no public affairs can possibly be conducted.

Whatever changes may be contemplated in the privileges, proceedings, or constitution of the Society must, under the charter, be incorporated in the bye-laws. And as no bye-laws can be valid until certain formalities have been complied with, and the acquiescence of the Corporation has been signified in General Meetings summoned for the purpose, there will be ample opportunities hereafter for a full discussion of whatever new arrangements the Council may think that the interests of the Society require.

In answer to a question from General Sir AUGUSTUS DALEYMPLE, Bart., the Chairman, Col. CHALLONER, entered into a further explanation of the views of the Council, and directed the following letter to be read:—

“47, Rue de Chehy, Paris, June 21, 1856.

“DEAR SIR,—Since the 1st of May I have been looking anxiously for information respecting the Horticultural Society, and the progress of the subscription towards the required £5000, and it is only by a letter in yesterday's ‘Times’ that I learnt that £1700 is still wanting, and to be raised by the 24th instant. I hope the warm appeal of ‘An Oldish F.H.S.’ will be responded to worthily, and that you will find the Society with the required amount in hand on Tuesday. Should this unhappily not be the case; but, to meet the deficiency then found, a sufficient body of the earnest supporters of the Garden should resolve to increase their subscriptions proportionally; I shall be ready to concur in the arrangement to the extent of doubling the sum (Twenty Pounds) I authorised you (in April) to put down to my name.

“The Emperor hero has just had the new gardens on each side of the ‘Avenue de l'Impératrice’—a noble conception—laid out for the instruction and gratification of his people, with all the rare trees and plants long since naturalised and matured in the promenade portion of the Garden at Chiswick; and it will be a scandal to our country, where the Government (I say it not by way of reproach) does not take in hand these things (leaving them rather to the natural spirit and energy of our people), that this Garden, so replete with magnificent exotics, should pass under the auctioneer's hammer, and be perhaps either rooted up, or portioned out into building plots (like Pope's villa), to say nothing of the loss to the nation at large of the manifold benefits afforded by the Garden, by the skilful management and propagation and liberal distribution by the Society of seeds, plants, and cuttings, so justly enlogised by ‘An Oldish F.H.S.’

“Fashion is, we all know, capricious enough, and we may never see again the gay crowds that used to adorn the Fêtes;

but surely the great horticultural body in England can afford to maintain a model Garden for themselves, notwithstanding, and independently of the splendid speculation of the Crystal Palace and its grounds. I will hope so at least till Tuesday next.

“I remain, dear Sir,

“Yours faithfully,

“Dr. Lindley.”

“J. T. WINTERBOTTOM.

It was moved by Mr. BLANDY, seconded by Mr. SPENCER, and resolved unanimously that the report of the Council be received and adopted.

It was moved by Colonel CHALLONER, and seconded by Mr. BLANDY—

“That this Meeting, after hearing the statement now made, authorises the Council to take such measures for the reorganisation of the Society as they may consider advisable, even though those measures should involve the relinquishment of the Garden at Chiswick, and the realisation of the property, or any part of the property therein.”

After some conversation a show of hands was taken, and the resolution was carried with only two dissentients.

We entirely concur in the vote of the majority, to give the Council, as at present constituted, authority “to take such measures for the reorganisation of the Society as they may consider advisable.” It is only by the judicious exercise of such authority that the Society can arise renovated from the ashes to which for years it has been crumbling.

We shall await with much anxiety the announcement of the measures resolved to be adopted by the Council, because on that will depend whether we can advocate the recommendation that those who have promised subscriptions for the preservation of the Garden should afford the same aid under other arrangements.

MR. SALTER'S FLOWERS.—CROSS-BREEDING.

HAVING read the account of Mr. Salter's *Hybrid Pæonies* at the Regent's Park Exhibition, and having had occasion to pass his door on my way to the meeting of the Horticultural Society, I called in to see them, not knowing that I should see a collection of them on the morrow at the Crystal Palace Show. This collection consists of improved seedlings of the herbaceous kinds, which were raised in different parts of the Continent, and of which cut blooms give no better idea of what they really are than cut flowers do in general. What can one determine about the value of this or that plant from seeing cut blooms of it? Then comes the question, How is the public to see certain classes of flowers except by cut blooms? You would not grow Pæonies, Irises, Dahlias, Tulips, and all the rest of them in pots for exhibition; therefore, we must trust to cut blooms, and be thankful for the reports of independent judges of such things.

I found Mr. Salter himself very curiously employed, propagating a large collection of *Herbaceous Irises*, of which he has a very large collection. “Do you prefer Midsummer to the spring or autumn for this kind of work?” said I. “You do not seem to see the force of the necessity for it being done just at this critical moment,” was the reply. The collection was in bloom, or nearly so, and when each kind is just at its best is the proper time to increase it, so as to be perfectly sure of the exact tint or colour. Stools or stock plants of Irises in the nurseries require to be thus looked over every year, to keep them up to the full strength, after “gapping” them to make up orders, and to make good accidents and frost-bitten ones. As it is thus certain that side pieces or snekers of them without roots can

be planted in the open ground, as the suckers of Pine-apples are put into hotbeds to root, who would be without Irises? or who would have them "all in lumps" or clumps, as you see them but too often, instead of mixing the colours as much as possible, as should be done in all mixed plants? and how easily that may be done, if you take them in bloom, and divide them, or rather slip from them at that time, as Mr. Salter does.

His large bed of those *Pæonies* was most magnificent, and with the exception of the crimson ones from the strain of *Potsii*, and the rose-coloured kinds, the great majority of them take those indescribable tints which we find so difficult to define in the Tea-scented Roses, fawn, nankeen, French white, and all degrees of blushes, from bashfulness up to being swelled in the face with rage. The earliest of them, with a delicate blush and lemon centre, is called *Queen Victoria*; *Potsii plenissima*, fiery crimson, is a most superb thing; *Lilacina superba*, a splendid rose and lilac; *Grandiflora carnea plena*, rosy-blush, is among the largest of the race; *Formosa plena*, blush rose; *Anemoniflora striata*, blush yellow, with crimson stripes; *Edulis superba*, deep rose; *Elegans superbissima*, silvery blush; *Nivea plenissima*, a fine blush white; *Reine Hortense*, white, with rosy centre; *Humea alba*, creamy rose, very fine; *Duchess of Orleans*, deep rose, with a blush centre; and *Duchess of Nemours*, not quite so deep a rose; *Prolifera tricolor*, white and lemon centre, very beautiful; *Comte de Paris*, rose guard, and a pale buff centre, fine; *Anemoniflora alba*, ditto; *Tricolor grandiflora*, rose and lilac. All these, and several others, were exhibited at the Crystal Palace, where I took the names; but, as I said before, cut blooms give no idea of the richness of a large bed of them.

I had seen a most curious set of *Prussian Pansies* at Claremont lately; and Mr. Mallison told me he had the seeds from Erfurt, and that was the first time he had them in bloom. I saw a profusion of kinds of the very same very curious Pansies, at Mr. Salter's, who sent the first seeds of them to Hamburgh and all parts of Germany, whence they are distributed all over the world as German Pansies. However, they, the Germans, paid Mr. Salter very well for the honour. He sent them five ounces the first year, at two guineas the ounce; and yet there is not a single bloom from that seed which would not disgust a true florist. You never saw such oddities in your life. I took cuttings of all the kinds at Claremont for the experimental garden, just to make people laugh at them. Some are all eyes, some all ears; some with and some without noses, and some with the nose turned on one side; some of them look as if they had been out boozing all last night, with their faces scratched, and lined, and veined; some without a shoe or stocking, or a leg to stand on; and some just dressed to dance on the stage; and there is no end of clowns and "Merry Andrews" among them; and all the host came from a streaked weed, which Mr. Salter picked up in the garden a few years back; but others, as Messrs. Downie and Laird, in Scotland, have taken to raise them now, and there can be no question about their getting soon into as much favour as "fancy flowers," among Pelargoniums, Dahlias, and Chrysanthemums.

Here I saw in bloom, for the first time, the now *Petunia*, which Mr. Henderson, of the Wellington Road Nursery, is sending all over the country, by the name of *Countess of Ellesmere*; a most lovely thing,—"a duck," in fact, as a friend calls my *Countess Geranium*. The *Countess of Ellesmere* is not a cross, nor a sport, but one of those rare seedlings which make their appearance like comets, and are themselves reproductions of the mother in a superior degree. This is *Shrubland Rose Improved*; and if it does out of doors as well as I saw it with Mr. Salter in a pot in-doors it is, without exception, the most valuable *Petunia* that was ever raised.

Shrubland Rose is a cross from a most delicate mother, now no more—the *Highclere Rose*, by the pollen of *Medora*, a strong grower. It was the only good seedling out of sixty in 1843; but the constitution is seldom divided in these *et ceteras*,—the mother side is more often followed.

Mr. Salter had a collection of new *Petunias* in bloom. I noted the following as very novel to my eye:—*Marquis de St. Innocent Amaranthe*, a shade of purple, striped white; *Hermione*, blush and spotted; *Impératrice Eugénie*, rosy-striped white; *Adolphe Hucass*, very large purple; *Madame Glade*, carmine ground, much pencilled; *M. Eugène Lemechey*, peach colour, edged white; and *Gloriosa*, for those who like size better than colour: this is an immense light flower, with a deep green border. I do not like those green-bordered *Petunias*, but many do, and admire them very much. There is no accounting for taste, that is certain.

Mr. Salter's *Blushing Bride* is the best white, scarlet *Geranium* I have yet seen; and among several kinds of *Unique* is one very near the flower for which Mr. Veitch got the first prize at the Crystal Palace,—it is called *Unique Le Quintinie*.

Among a host of variegated plants, I noted a "frosted-silver" plant, called *Centaurea candidissima*, and of all that class of plants, this is the very best, every part of the plant being as white as the whitest parts of *Cineraria maritima*, the original "frosted-silver" plant; a most beautiful golden-veined-leaved *Lily of the Valley*; a golden-striped "Gardener's Garter," *Arnica versicolor* and *Myoporum pictum*, a very old plant, with singularly beautiful dotted leaves when well grown; together with a large collection of variegated rock-plants; a most curious hanging basket-plant, named *Coris*, from Nazareth; the very old *Lathyrus rotundifolius*, with clusters of brick-red flowers; immense quantities of Phloxes, Pentstemons, Potentillas, Double Daisies, single and double Pyrethrums and Matriarias, and ten thousand seedling Chrysanthemums.

In the "Chronicles of the Experimental Garden" I said that the *Geranium Rosea compactum* was only fit for a drawing-room; but here Mr. Salter has a specimen plant of it a yard high, and more than that across the head. Fifty of such plants would make the finest *Geranium*-bed in the world.

When Dr. Herbert died, I thought, foolishly enough, that I ought to know as much of the laws of cross-breeding as any one; but I have been thoroughly beaten on that subject, and whether I am second, or third, or even fourth, I cannot tell. The first cross breeder in England tells me he does not see much use in registering genealogies, on which I put much stress. If every bedding *Geranium*, for instance, was truly registered, as to its parentage, it would save me three years in every cross I wish to prove. If I had known the parents of, say, *Bishopstowe Scarlet*, which was sent some weeks back in a diseased state, when I even did not know it, it would save me the last three years with that cross. Several of the contributors to the "Experimental" have sent in plants of *Bishopstowe Scarlet*; and the moment I saw the flower of it I could tell the mother, and make a near guess of the real father of it, for I have this season no end of the very same cross. *Harkaway* is another; I never heard of it till I read that thousands of it were used as edgings at Shrubland Park, or were in preparation for edgings. If I had heard of it before I knew the parents from which it descended, what a bother I should escape! Now, I have only this consolation—that I verify now what another man proved three or four years ago, unless it be a consolation to know how to make a horse-shoe *Harkaway*, a nosegay *Harkaway*, or a *Harkaway* in any section. There is nothing more useful to be known by the cross breeder than the true capacities for breeding,

and the actual breeding that has been made with all the plants he wishes to cross himself. There are certain plants that never yet did produce a superior cross; then, if I happen to know what has been done already with any one of them, surely I would not throw away time experimenting on it? Multiplying experiments, and registering every one of them, is the surest way of making the thing easy to new beginners; hence why I put so much stress on it. I am almost satisfied that all the bedding Geraniums of the greenhouse kinds, as *Lady Mary Fox*, will seed sooner or later. *Touchstone* is as bad to seed as any of the race; but there are crosses from it now in other hands, and I have a plant of it in full seed at this moment, by following the hot-house system with it.

D. BEATON.

RANDOM RECOLLECTIONS OF DYSART HOUSE.

DYSART HOUSE is close to the old-fashioned town of Dysart, on the Fife coast, about one hour and a half's distance from Edinburgh, crossing the Forth at Burnt Island, and thus approached from north and south by the Edinburgh, and Perth and Dundee railway. There are few gardeners that read that do not know something of Dysart and Mr. Lane, the eminent raiser and cultivator of Rhododendrons and the allied groups, and whose success in so soon blooming *Rhododendron Dalhousianum*, by grafting it on a strong plant of *Ponticum*, must be fresh in the recollection of all our readers. Ere long, I presume, he will have seedlings and hybrids from the same plant in bloom.

This garden, a quarter of a century ago, was celebrated for its Rhododendrons and its American plants; but it was nothing then to what it is now. A glance will show that general gardening is anything but neglected; but the great features of the place are *Rhododendrons* and *Hollyhocks*. I was too early to see anything of the latter, except the vast quantity, all lettered and figured as approved varieties; and even of the former the great mass were merely swelling their buds, though there was one fine specimen of a dark variety of *Alta clarense* worth going miles to see. In the grounds there was also a fine plant of *Arancaria imbricata*, not so tall as some about London and Edinburgh and elsewhere, but next to unequalled for the compact thickness of its branches, and the rich, deep green of its foliage.

With the exception of such single specimens and masses of common Laurel as divisions and backgrounds, the great features of the pleasure-grounds are American plants, and chiefly Rhododendrons. These are thrown together in groups and bold, sweeping borders in grounds traversed with gracefully-curved walks, and these again bordered with broad, irregular margins of turf. New and continuous additions are being made, and were I to live long enough, it would not surprise me to hear of these Rhododendron grounds extending westward along the coast for nearly two miles to the east end of the "lang toun o' Kirkaldy." The only objection to this would be the narrowness of the space in places between the highway and the shore, and the salt spray from the sea breeze, which leaves its mark on every leaf it touches. The present grounds are so sheltered and banked that the spray does not touch the plants. Thousands upon thousands of Rhododendrons are growing away most vigorously, most of them raised upon the promises; and thousands of seedlings will soon be crying for more elbow-room.

In the houses, along with *Calceolarias*, *Cinerarias*, *Azaleas*, &c., there was a nice plant of *Rhododendron Maddonii* in bloom, and also the delightfully scented *Odorata*. To a hybridist the great thing would be the pans of seedlings, crossed and uncrossed, of all the best

new kinds, and Mr. Lane's remarks and expectations respecting them.

I question if such masses and varieties can be seen in any other private establishment. The Exhibition of American plants at the Regent's Park paled even the beauty of the ladies. These grounds at Dysart must be superb in the end of May and June. They also furnish a fine specimen of what may be termed uniqueness and unity of expression. If there is a regular flower-garden, I did not see it. There seemed to be no attempt to mingle flowers with the evergreens. What flowers would compete with these Rhododendrons in the height of their bloom? In the autumn, again, though cheerfully green, they would be sombre, contrasted with other things in the height of their beauty. The inference would seem to be—mingle not groups of these with groups of herbaceous flowers or bedding plants, but give them a garden for themselves; and if that is not convenient, instead of mixing or blending, use the American plants, but still separately, as a surrounding background. The boundary would thus take the chief attention at one time, and the centre with flowers at another, and there would be no dividing of interests or clashing of ideas. In large places there should be a garden for American plants alone. The example of Dysart shows how, even in small places, eminence may be gained by concentrating efforts on a limited number of subjects. Dysart is anything but small; yet its chief fame rests upon its Rhododendrons.

Gardening is now so wide that where everything is attempted, unless there are great resources, respectable mediocrity is all that can be reached. Were more of a Freemasonry, benevolent, social feeling existing in suburban districts, each garden, by following a previously arranged plan, or carrying out merely the peculiar tastes of the owner, would become, not a confused *multum in parvo* (much in little space), but a *multum in multis*; and by the owners visiting each other, the little places of the district would present many of the features of the various gardens in one princely demesne. Before this can be realised, however, we must get out of the English habit—and not so much English as Scotch—of taking no notice of neighbours until a series of stupid introductions are gone through, and we know, or have given our curiosity full play to know, all the outs and ins of their previous history—all right enough in a case of familiar friendship, but not requisite for exhibiting common courtesy. The tale of the two gentlemen, who knew each other well by sight from studying at the same college, and who met and parted without a word on the top of a distant mountain, because they had never been introduced, is no unmeaning satire upon the conventionalities of genteel society. A love of gardening generates the very opposite of the selfish and the contracted. As proof of it, notice the well-known fact that gardeners, as a body, stand alone for the attention and kindness they bestow on visiting gardeners, though they had never heard of or seen them before. Proprietors of gardens and employers of gardeners soon catch and exemplify the same spirit if they are really fond of, and interested in, the pursuit. Looking on and admiring the same plant even presents us at once with a common stand-point of feeling and action—a fact which many have known to their happiness; whose most valued intimacies had their first buddings amid the hallowing influence of flowers.

R. FISU.

FLORISTS' FLOWERS.

THE PANSY.

THIS lovely, almost ever-blooming flower is an universal favourite. It may be seen ornamenting the cottager's border, the amateur's garden, and the parterres

of the aristocracy. At almost every Show throughout the length and breadth of the empire, it forms no inconsiderable feature on the exhibition-stands. The improvement it has attained is so great, that its original prototype, the wild *Viola tricolor* of our dry, gravelly corn-fields, can scarcely be reconciled with its progeny. The wild flower is small and starry, with only three colours. The cultivated varieties have large, nearly round, smooth-edged blooms, with almost every colour of the rainbow, and richly shaded into the bargain.

Its culture is easy, as the fact of the success of the most humble grower proves. All that it requires is a dry, rich, light soil, fully exposed to the benign influence of the sun and air. If the situation of the garden is low, the border or bed should be well drained, and raised six inches above the surface. A deep soil is not required, for the roots spread chiefly on the surface.

To preserve the varieties in health, it is absolutely necessary to propagate them annually. The most common method of doing this is by cuttings. These should be taken off in June, or as early in July as possible. The cuttings should be young, with a hard bottom, for if gross and soft they are apt to damp off. The lower leaves should be trimmed off, and the cuttings inserted thickly in sandy soil, without any dung, under hand-lights or large bell-glasses. Shade from sun for a few weeks until growth is perceived, then gradually remove the shades, and give air every day, finally removing the glass. As soon as they are well rooted, prepare a bed to receive them, and plant them out nine inches apart. Very new choice sorts may be potted into small pots, and kept through the winter in a cold frame, and planted out early in spring. A very secure way of increasing any variety is by layers, exactly similar to that adopted in the propagation of the Carnation. Take any rather long shoot, trim off the lower leaves, and cut half through the stem a sloping cut, bring the shoot down, and secure it to the ground with a hooked peg, and cover it half an inch with soil. It will quickly root, and make a strong, good plant. Such rooted layers are the best of all for pot culture, to be exhibited in pots, and no florists' flower answers better for that purpose, as such growers as Turner and Bragg have proved.

The Pansy has been divided by florists into three classes, namely, Selfs, Yellow grounds, and White grounds. Every year adds to the number of varieties. The growers in Scotland have been lately very successful in obtaining improved varieties, and have formed a Society at Edinburgh for the express purpose of improving this favourite flower, an example that English growers would do wisely to imitate.

To raise new improved varieties is the object of our Scotch neighbours. Hence prizes are offered for seedlings: such prizes seldom, if ever, enter into the exhibition-schedules of the Shows in England. This is to be regretted by all lovers of the Pansy. Perhaps, hereafter, this omission may be rectified.

TWELVE SELECTED NEW VARIETIES.

SELS.

1. *Black Prince* (Hale).—Very dark, almost black, with a fine lemon eye, well formed, and above the medium size.
2. *Napoleon* (Hale).—Dark, rich, purple maroon, large size, and good form. Extra fine.
3. *Magnum Bonum* (Thomson).—Splendid yellow; the best of its colour yet raised; a fine, large, bold flower. Would make an excellent bedder.

YELLOW GROUNDS.

4. *Blazer* (Thomson).—Richly margined with dark maroon, white eye, dark spot on lower petal.

5. *Rifleman* (Hale).—Broadly margined with purple, good eye, excellent form. Distinct and good.

6. *Lord John Russell* (Turner).—Edged with crimson. A rich, well-formed variety.

7. *Mr. Thomson* (Bragg).—A fine yellow ground, margined with rich bronze.

WHITE GROUNDS.

8. *Constance* (Turner).—Margined with deep blue, with a straw-coloured eye. Good.

9. *Heracles* (Hunt).—Pure white ground, margined with rich purple. Well formed, and of good substance.

10. *Omniflore*.—A free-flowering variety, of medium size, edged with light purple.

11. *Victoria* (Hale).—Fine, large, bold flower, edged with blue. Good form and substance.

12. *Miss Nightingale* (Hale).—Fine form and substance. A good variety, with margin of light purple.

Price 3s. 6d. to 5s. each.

TWELVE OLDER SELECT VARIETIES.

SELS.

1. *Alba Magna* (Thomson).—Pure white, good form. A large, bold flower.

2. *Black Diamond* (Turner).—Very rich dark crimson. Good eye and form.

3. *St. Andrew* (Downie).—Dark maroon. A good, rich-coloured, well-formed flower.

4. *Sovereign* (Dickson).—The finest golden yellow, with rich dark eye.

YELLOW GROUNDS.

5. *British Queen* (Dickson).—A clear straw colour, margined with purple. A good variety.

6. *Duke of Newcastle* (Turner).—Golden yellow, margined with blue-purple. Extra fine.

7. *Great Britain* (Parker).—A large, bold flower, golden yellow, margined with crimson.

8. *Sampson* (Bragg).—Margined with rich maroon. A well-formed, good variety.

WHITE GROUNDS.

9. *Constance* (Turner).—Margined with blue, with a straw-coloured eye. Good form and constant.

10. *Lord Raglan* (Campbell).—Pure white ground, margined with rich brown. Distinct and good.

11. *Minerva* (Dickson).—Blue margin, with yellow eye, clear white ground.

12. *Royal Visit* (Dickson).—Margined with purple; a large flower. Good form and constant.

T. APPLEBY.

(To be continued.)

HOME TIMBER TREES *versus* FOREIGN.

WHATEVER may have been gained in a picturesque point of view by the introduction of forest trees from other climes to adorn our English scenery, it is certain that many of them will be short-lived compared with native species. The *Spruce Fir* rarely or never attains so great an age as the *Scotch*, while the *Larch*, in other respects a useful tree, is often shorter-lived than either; and I very much doubt if many of the species we are told tower upwards so many hundreds of feet will ever reach more than one-fifth of their *maximum* height in this country, ere they die off, or become a prey to some disease or other, having its origin in the altered state of their condition.

This is not the case with our native trees in a general way, for they often attain a great age, and size too, ere they fall a victim to that constitutional disease which carries off exotics. Certainly, there are some exceptions amongst foreign introductions, and it is to be hoped that

many of the ornamental trees recently imported may be possessed of that long-maintained vigorous existence which enables them to brave centuries, like our own Oak, Yew, and other trees.

One of the longest-lived amongst foreign trees acclimatized with us is the *Cedar of Lebanon*; and, certainly, there is nothing yet amongst the numerous Pine family to excel it in point of beauty. Its sturdy, horizontal limbs, stretching at right angles from its stem, seem to bid defiance to everything around it, and its general good appearance, apart from the veneration due to its name, entitles it to the first place amongst trees of its class.

My purpose here, however, is only to throw in a few hints about the selection of trees for future effect. It would be well in all cases to ascertain the constitutional durability of a tree ere it be allotted a place where an aged one is wanted, as some unfortunate mistakes have been made that way. The latest introduced trees are not necessarily the most ornamental, and those who plant for future effect would do well to consider if utility rather than novelty might more likely accord with their successor's view. By this I do not mean to condemn the search after, and planting of, new trees; but when certain objects have to be gained, and trees are to be planted at certain places to form important features in after effect, it is better to adhere to well-tried old friends than trust to the highly extolled new comers, whose acquaintance was only made yesterday. New trees ought first to be tried elsewhere, otherwise it is likely nine cases out of ten will be unsatisfactory.

I have been partly induced to pen the above from the fact, that in making some alterations, I had occasion to cut down some half-dozen large *Oriental Plane* trees, containing from twenty to sixty cubic feet of timber each; but not one of them was sound, although, until within the last few years, they seemed in robust health, and the situation in which they were growing suited them, as is proved by their size. Now, *Sycamore* is seldom found diseased, neither is *Beech*, which, I believe, attains a great age. *Elms* are certainly not so long-lived, neither is the *Ash*, the longest, perhaps, being the *Yew*, *Oak*, and *Hawthorn*. In some places aged *Scotch Firs* form very interesting objects, with their expanded heads and orange-coloured bark, differing widely from the small plants of the same species. One tree puzzles me—the *Spanish Chestnut*. It is grown here rather extensively; and, although it is often found of tolerably large size, it is rarely fitted for any purpose of small work; not that it decays so much, but that the timber has a tendency to shiver or fall in pieces when sawn up for use. All specimens of it do not do this; and some seem to hang together as well as Oak. Even while growing on the same soil as the other varieties, most likely they are varieties of the original, and it would be well to ascertain which is the most adhesive one, and to plant only that.

J. ROBSON.

QUERIES AND ANSWERS.

GARDENING.

FORCING PEACHES IN POTS.—PLANTING A VINERY.

"I have two small lean-to houses heated by hot water, facing south, fifteen feet by nine feet each, in which I want to force Peaches. My notion is, to have them in pots or boxes, so as to be able to use the houses for other purposes. I mean to train two or three Peach-trees to a trellis on the back wall, but to have these *movable* as well as the others.

"Some plain directions for growing Peaches in pots or boxes would be very acceptable to me, as well as to many others.

"I have a small house, about seventeen feet by seventeen

feet, in which Vines are to be planted. The house is heated by hot water. Will you say *how* the Vines should be planted? The front wall is not built on arches, but, of course, nothing is more easy than to make a passage for the roots through the wall, supposing you recommend planting *inside* the house. How many Vines?—IGNORAMUS."

[*Peaches in pots* may be alluded to hereafter in detail; meanwhile, these are the main points:—Get bearing plants from the nursery, or obtain maiden trees. Those for a trellis cut for fan training, those for a single stem grow in the standard pyramidal style. They may have, at first, 10-inch pots; use maiden loam, and top-dress with rotten dung. The second season and onward they will require pots from fourteen inches. Do not prune very close, unless you are quite sure of the wood-buds; better to prune finally when the buds are all broken, so as to select your shoots. Leave as many all along the stem as can obtain air and light enough; but do not disbud all at once. Do not give more than 50° until all the buds are fairly broken, then the temperature may be increased to 60°. Use chilled water for watering, and after growth is proceeding use it freely. Keep down insects, and get the pots out of doors by the end of July or the beginning of August, and if well mulched and watered until the end of September, you may expect wood that will be full of flower-buds next season. The thing then is to start gradually, and disbud gradually; dust the pollen on the young incipient fruit, give plenty of air, with moderate waterings while growth is progressing freely, and then there must be no dryness until the fruit is gathered and the wood getting ripe.

In such a *Vinery* as you describe the border may be entirely within the house, and if such is resolved upon, the Vines had better be planted against the back wall, and trained up it, and then down the roof. If it is preferred to train up from the front in the usual way, there is nothing against it, though we prefer the other plan, unless, indeed, you knock holes through your wall, and give the roots an outside border as well. We prefer inside planting when it can thus be done. If you have a border outside as well as inside, see that the outside border is not higher than that within, or you will bury the roots too deeply.]

PREPARING VINES FOR EARLY FORCING.

"I have just cleared off a crop of Grapes, and still the Vines seem inclined to grow. They are eight or ten years old. Had I better keep stopping them, or let them ramble as they please?—A YOUNG GARDENER."

[The more they grow, the more will root action be promoted, only take care that the main leaves have full exposure to light. In the course of a month thin the laterals considerably, and in a month more remove them entirely, and if you purpose early forcing, do everything to ripen the wood early by all the sun and air possible, and keeping the border dry. If you contemplate very early work, as we presume you do, the sooner the wood is hardened the better, and the less rain after September the more fit will the roots be for forcing early.]

CONSTRUCTION OF A VINERY.—HEATING TWO HOUSES FROM ONE BOILER.

"The part of my garden devoted to forcing purposes is enclosed by walls about 9 feet high, and is about 110 feet long, *i.e.*, from east to west, by 62 feet from north to south. I have at present, on the wall facing the south, two houses joining one another, 10 feet clear inside, and about 80 feet long the two. These are lean-to houses. I have also a span-roof, with the same aspect, opposite these, at about 17 feet distance, 14 feet wide, 35 feet long, and 21 feet from the wall on the north side.

"These are at present heated by three of Rivers' boilers, which are placed inside the houses, but which I do not like, on account of the dust and escape of gases.

"I am about building another span-roof for Vines, for early forcing, in a line with the span-roof; dimensions, 12 feet wide, inside measurement, and 40 feet in length. It will be sunk 2 feet in the ground, with height sufficient for

comfort, and no more. Now, I should be glad to know, first, what height you would recommend; secondly, breadth of border; thirdly, quantity of hot-water 4-inch piping required; fourthly, whether I could not have two boilers to the same furnace, so that I could heat both houses with one fire; and, also, whether some substitute for valves could not be used, so that the water from the boilers could both flow into one house if thought advisable, only to work one at first, and *vice versa*.

"The border I intend to place inside, but have been told that if I take the Vines up one side and down the other they will only bear on the part going down. Is this so? or would you advise me to train them horizontally? The aspect can only be south. I should have preferred it east and west, but have not room.

"I thought of taking the hot water from the boilers, first of all, into a cistern with supply-pipes leading to both houses. I could then, by plugging up one pipe, send it into the other; or I might have a division in the cistern, which would completely separate them when requisite. Having Rivers' boilers by me, I wish to use them if possible.—H. C."

[We do not clearly understand you. If you had marked down the parallelogram shape of your ground by four lines, and inside of that placed the position of your present and contemplated houses, we should have seen in a moment what you propose, and been better able to advise you. For instance, on the 110 feet wall you have a range of eighty feet facing the south, and ten feet wide. Opposite these a span-roof, seventeen feet distance, so long, and twenty-one feet from the wall on the north side. Now, as the width of the range is ten feet, and the width between it and the span is seventeen feet, that would make twenty-seven feet instead of twenty-one, so that we really do not know the position of your houses. With a width of space of fifty-two feet in all, we do not see why your span-roofed houses might not be made short enough to face east and west, and you might have in miniature an edition of the houses at Lord Pannure's noticed the other week. A span-roof, one side facing the north and the other the south, we would not prefer, for forcing purposes, to a lean-to, and the advantage of extra light from the north will be neutralised by the extra cold and extra expense for fuel.

Now for your questions as to the proposed house. Were the height of the back wall of a lean-to an objection, we would prefer, under the circumstances, a wall of five feet in height or so at the back, and a short hipped-roof of glass, say three feet, to meet the longer front sashes in a ridge-board. Then beneath that hipped-roof we should have a pathway of three feet in width, and in front of that the Vine border, the front wall being about one foot above the surrounding ground. This would give a fair slope for early forcing. According to your plan, supposing the path is in the centre, you ought to have for Vines eight or nine feet at the least to the ridge-board. 2. You would require at least two pipes round the house. 3. It would be better to sink the pathway considerably, in preference to sinking the inside of the house much, and, consequently, having a border much below the surrounding soil, which would make draining difficult and expensive. If the walk is in the centre, there could be a border on each side, and the walk would help to secure drainage. Supposing the walk to be three feet wide, there would be four and a half feet on each side, quite wide enough for the purpose with top-dressing. We would, however, prefer the walk nearer the north side, so as to have the border on the south side alone; but it does not matter much if the roof is not densely covered with foliage. 4. Horizontal training answers well. When Vines are trained down there is a tendency to short-jointedness; but you need not fear that the Vines will be fruitful there only, if the maturation of the wood is properly attended to. 5. There would be no advantage in having two boilers to one furnace.

In large establishments it would often be desirable to have two boilers and two furnaces for one series of heating, to be used in extreme cases or accidents. In your case, so far as we understand it, the simplest mode would be to take the flow-pipe to an open cistern, from thence take as many flow-pipes as you want to heat houses, and have a wooden plug for each, to shut in or take out as necessary. All the finest-made, expensive plugs and stop-cocks in the world will not answer better, if common judgment is used.]

DEPRIVING BEES OF HONEY.—GREEN CENTRE IN ROSES.—HARDY EVERGREENS.

"Might any honey be taken this year from a hive which swarmed on the 3rd of June? The bees have already filled a box a foot square with comb. The hive from which this swarm came swarmed again on the 14th, and appears ready to swarm soon again. Should two more small swarms issue from it, and that it is wished to unite them to a strong hive, how can they be stupefied with safety? and, above all, how can the queen be discovered amongst the mass of bees? Last year a swarm was chloroformed, and it was impossible to discover the queen, though next day she was found dead on the white cloth, when the bees which revived had returned to the hive. Eventually all the bees died, so I fear to try chloroform again; and in Ireland I do not know if the fungus proper to use is easily procured. What is the best way to protect wooden hives in winter? Would it do to place them in a sheltered corner of a walled garden? or should they be quite shut up or fed?

"Is there any way to prevent the *green centre in Roses*? Several which have been budded show it, and it quite spoils them.

"Please name some *hardy Evergreens* which would bear a sharp east wind in an exposed situation, and which sorts are the quickest of growth to protect flower-beds from east winds.—A SUBSCRIBER."

[Take the box from your hive as soon as the combs are filled with honey; but as your stock has swarmed twice, and you expect two more flights, you had better replace the bees in the stock instead of uniting them to another strong hive. See what was said in our last on replacing swarms.

Chloroform has a bad effect on bees, making them sick and eject honey. Smoke from the *fungus majus*, or large puff-ball, is the safest and quickest plan of stupefying them. If you cannot procure the fungus in Ireland try a friend in England, or apply to some of the London dealers in novel bee-hives. The dry fungus, being soft and light, may be pressed down and sent cheap by post.

Protect your wooden hives from damp in a sheltered corner free from the drip of trees. As a rule, however, good summer quarters are good winter ones. Also, let the bees have their liberty, and feed them if required.

The *green centre in Roses* is a common occurrence in some seasons, and is a development of the fact that double Roses, though beautiful, are only monsters produced from single ones; and when their centres, or rather, fructifying parts become *green*, it is only a plainer proof of their monstrosity. We know of no cure; you can only hope that the next blooms may come perfect.

There are few good *hardy Evergreens* that can stand sharp east winds in spring, not even the common Laurel. We have found, however, none better than the varieties of Hollies, Tree Box, common Arbor Vitæ, Portugal Laurels, and Evergreen Privets.]

LINUM GRANDIFLORUM RUBRUM.

I HAVE read with great interest the remarks made from time to time in THE COTTAGE GARDENER respecting the culture of the *Linum grandiflorum*. I think you are quite wrong in saying you disbelieve your correspondent in stating that all his seeds came up. I bought a packet from Rendle's, which I sowed in April, which, I should think, all came up, for I have twenty-one nice plants, some six inches high, and I have given away nearly as many. I would willingly have given you my system of management if I thought it would have been acceptable. I am very anxious to bloom it, as it is so highly spoken of.—W. H. WRIGHT, Bolton-le-Moors.

[Let us know all about it *after* it has bloomed.—ED. C. G.]

PENTARAPHIA CUBE'NSIS.

THIS belongs to the Natural Order of Gesneriads (Gesneraceæ), and to Didynamia Angiosperma of Linnæus. It ought to be included among the species constituting the genus *Conradia*.

"Native of Cuba, where it was discovered by M. Linden. A plant was presented to the Horticultural Society by Mr. J. A. Henderson, of the Pine-apple Nursery, in the spring of 1849.

"A shrub with a compact habit, and dark green, convex, evergreen leaves, obovate, crenated near the point, and netted on the under side with green veins on a pale ground. The flowers grow singly in the axils of the leaves, on cinnamon-brown stalks an inch long. The corolla is about the same length; tubular, curved, and rich scarlet, with a projecting style. The calyx consists of five straight, narrow, sharp lobes, not unlike five brown needles, whence the generic name has arisen.

"A dwarf shrub, requiring a temperature intermediate between the greenhouse and stove. It is easily increased by cuttings treated in the usual way, and grows freely in a mixture of loam, peat, and leaf-mould.

"A very neat and pretty little plant, remaining a considerable time in bloom."—*Hort. Soc. Journal*.



DOUBLE COLUMBINES.—HOUSE MOSS FOR POTTING PURPOSES.

IN consequence of what Mr. Beaton has stated recently, I forward at the earliest opportunity a few blooms of double Columbines for his opinion, and at his service if desired. I am sorry the paper was not a week earlier, as now they are nearly out of bloom, and I fear the enclosed will have fallen to pieces before he receives them. I have been told by the company visiting here that my assortment was the best they had seen for years, and were pleased to find that I was interested in so useful, though neglected, a flower. I have a great variety in colour of the semi-double. I have sent *one* bloom. The double ones are nearly, if not quite, all seedlings from the semi-double, as I do not recollect seeing a perfect double one last year. I have a little seed by me, and I can take seeds from the best of this year; should Mr. Beaton think it worth a trial I shall be most happy to forward him some.

I have enclosed him a bloom of the double *Buttercup*. Is it the true sort? It is an old friend in our family, with the double *Polyanthus*, though with me here it grows more than two feet high; but I have it marked for shifting into the poorest bed I have. That and the bloom enclosed, with *Erysimum Perofskianum*, autumn sown, are the chief yellows I have to depend upon for first spring bloom.

Some of your correspondents of late have mentioned the utility of *Moss*; and as I have found it an advantage in my small way, perhaps you will allow me to detail it. The Moss I am about to speak of is not the ground Moss, as is generally used for packing, but the house Moss that is found on old thatch or stone tile roofs. About two years ago, the plasterers were here repairing the roof of the dwelling-house (stone tile), and in doing so they cleaned off a large quantity of the above Moss; and when I was appealed to as to where it should be put, I had a look at it, and thought it much too good to be thrown on the dung-heap, so I had it put in a shed I use for tools and potting, and from that time up to the present I have used no other drainage for every pot I make use of. In pots for cuttings I fill to within an inch of the bottom of the cuttings, and as soon as they are rooted I turn the ball out, and take the Moss off to about half an inch, or as near as the roots will allow, then put back just Moss enough for drainage, and fill up with potting-mould, then return the ball to the pot again. Now,

this bit of Moss left gets full of roots directly, and keeps the earth in a nice moist state; and if the pot is plunged in a moist bed they will require little or no attention in watering till they want repotting, and then, by taking off the bottom Moss, the balls will stand on the potting-bench, and with a knife they can be divided with as much ease, and in the same manner, as you would divide a half-pound of butter.

Now, for plants that I want to bloom in pots, I put a layer of the most decayed Moss—such as has been used for drainage several times, for I do not waste it—on the top of the pot, with a little earth and sand just to cover it. It keeps the top from baking, admits the water more freely, and encourages the roots upwards. Besides the advantage to the plants, it saves a great deal of time in potting.

There is another circumstance I should like to mention, bearing on the utility of this Moss. When I entered the Doctor's service I found two white *Azaleas* that had never bloomed since they were purchased (in bloom), several years ago; and that discourages ladies and gentlemen from making larger purchases than they otherwise would. I knew there must be a *cause* for their not blooming, and to discover that cause was the first thing for me to do. First thing—What are they growing in, or, more properly, dying in? Why, common garden mould. Now, peat is mentioned as what they should grow in; but, then, I had no peat, and it is very scarce in these parts, and my general practice is, if I cannot get the exact thing named, to make use of the best substitute I can find; and this Moss struck me as a very good substitute, so I got some of the thickest of the pieces, and rubbed them into small bits, then mixed a little silver-sand with it, and after I had shaken the mould from the very small ball of peat that was left, I began pot-

ting with the Moss, mixing a little sand and a few small lumps of charcoal as I proceeded, working it all in close with a stick till the pots were full. I then followed the instructions you so frequently give in growing, then ripening the wood. I then just kept them from the frost last winter, and for six weeks past they have been a mass of bloom, at least, one of them; the other is only the ghost of what it ought to be, but all the shoots bloomed. I have just turned them out on the north side of the house to grow on again for another year.—THE DOCTOR'S BOY.

[Mr. Beaton will be much obliged by your seeds of the Columbine. He fears the Double Crowfoot is not the true one.]

FORCING ASPARAGUS WITH HOT WATER.

MR. INGRAM, Her Majesty's gardener at Frogmore, is very successful in forcing Asparagus, and early in February has exhibited 100 heads weighing, collectively, 13 lbs.

The following is a ground-plan and section of the pits he employed for the purpose.

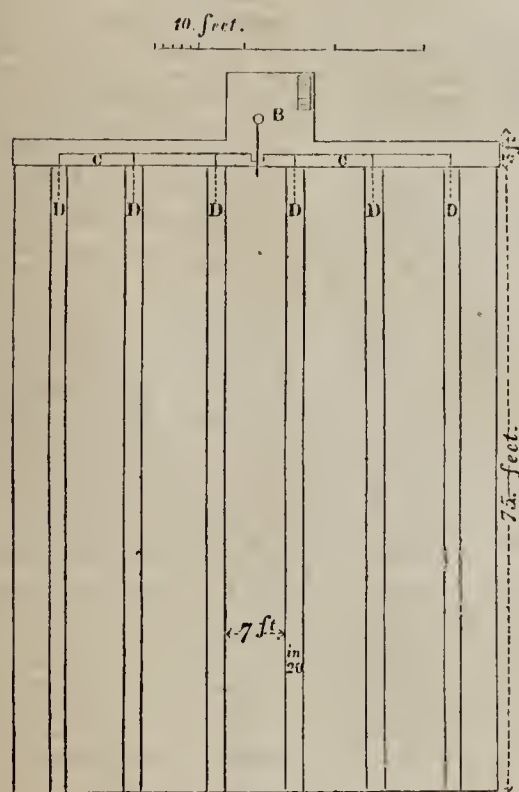


Fig. 1.

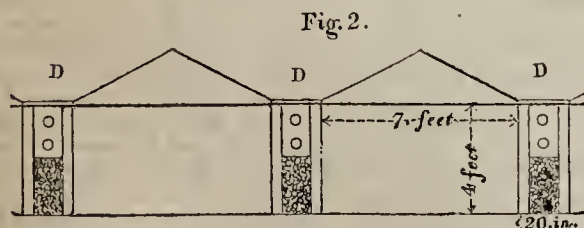


Fig. 2.

Fig. 1. A ground-plan of five pits, 75 feet in length and 7 feet in width, sunk to the depth of 4 feet. B, boiler (technically called a saddle-boiler); C, space for two main-pipes which spring directly from the boiler, and from which is conducted a flow and return pipe between every divisional space marked D; the lower part of each division is filled with rich soil to the depth of 2 feet; the sides of the pits have holes (termed pigeon-holes); the upper space of 2 feet is left vacant for the radiation of heat from the pipes. The divisions are 20 inches across.

Fig. 2. A section of two pits, showing the beds, pipes, and roof; which last is composed of wood.

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO IX.

THE SHRUBBERIES—LAWNS, &c.

(Continued from page 212.)

THE outlines of the shrubberies should be bold, and not made up of an infinite series of intricate curves, under the idea that such is indispensable to an agreeable arrangement. For some years after the shrubs are planted, the outline showing the bare earth must, for the sake of neatness, be kept well defined; but as the shrubs increase in size, they should, at least in many situations, be allowed to grow over and obliterate the formal boundary with their branches. Where, however, the space between a shrubbery and a walk is very limited, such over-growths cannot be allowed, but must be confined to those portions immediately fronting the greater breadths of lawn; and, in such situations, the obliteration of the harsh-cut margin of the turf, and its substitution by the graceful outline of the masses of foliage, will be found a very pleasing feature. Where this is adopted, the possibility of introducing flowers in the fronts of such shrubberies is, of course, out of the question. Nor is that to be regretted on the whole. In those parts of the shrubberies immediately contiguous to the walks flowers may form an interesting addition; but I would not mix them up in every shrubbery in a garden. It is, I conceive, preferable to allow the shrubs an opportunity of developing their own peculiar characters, and, in the main, to confine flowers to situations where they would be less obstructed in their growth, or to place them as addenda to shrubberies in particular situations, where they would be especially desirable and effective. In thus deprecating, as a principle, the indiscriminate mixing up of flowers with shrubs, I allude more particularly to dwarf-growing herbaceous plants and annuals—such kinds, in fact, which, while they destroy the peculiar features of a shrubbery, are prevented by their ruder neighbours from developing their own proper characters.

The practice of dividing the shrubberies from the walks by a mere ribbon of grass, of an uniform width, extending, perhaps, to a considerable distance, is by no means worthy of imitation. If, however, the walk is a straight one, and the shrubberies continuous, the marginal turf should be of equal breadth throughout, and proportionate to the width of the walk. A bold, straight walk bounded by a very narrow strip of turf has a mean appearance. If the walk is not a straight one, the outline of the shrubberies should be irregular, here advancing, there receding, to give ample space for detached plants on the grass in front, to break the uniform appearance of the masses, or for groups of richly-coloured flowers, which, when seen against a deep green back-ground, are highly effective.

It has often occurred to me, that the mixed and heterogeneous arrangement of our shrubberies is a defect, and that they are susceptible of great improvement in that respect. Instead of mixing indiscriminately a number of plants of entirely different and often antagonistic habits, I would have groups and masses of similar kinds, allowing one kind to predominate in this part of a shrubbery, another in that, blending rather than mixing the several characters. I think such an arrangement would be attractive as well as novel, and be the means of imparting character to many gardens which cannot now be said to possess any. Instead, then, of finding almost every available species of shrub employed alike in every place, those most suitable for any given situation would alone be selected. Most gardens would then present some distinguishing character in their masses of shrubs not to be found in another. Judging from a few examples which I have seen, the effect of such an arrangement would be pleasing. I recollect, particularly, a mass of shrubbery composed entirely of Hollies, which invariably fixes the attention of visitors, and always furnishes a theme for admiration. When seen in contrast with the surrounding shrubberies planted in the mixed style, the Hollies most assuredly bear away the palm. These observations are, of course, only intended to apply to the principal masses of shrubs, and in no way

to affect the special collections of ornamental shrubs and trees which every possessor of a garden is desirous of bringing together in as large a number as possible.

If the glory of our English gardens consists in the rich verdure of their lawns—and there can be no doubt that much of their attraction is due to that particular feature—too much care cannot be bestowed upon them. Wherever space will allow, large and open lawns are far preferable to minute and intricate ones. If the latter predominate, the character of the garden will be dark, damp, and gloomy, especially as the shrubberies increase in height. This circumstance is not sufficiently attended to in designing and planting new places; the consequence is, that a few years after they are completed, and when the general features of the grounds should be assuming their proper character, the shrubs and trees have become too large for their respective positions, gloominess prevails, and a modification of the original plan has to be effected. A distinguishing feature in the labours of the landscape-gardener, and one which, if fully understood and appreciated by him, gives to his profession the character of a liberal art, is the power of prejudging future effects from present causes. In being able to exercise this faculty promptly and effectively rests much of his success. But while it is not in his power to exercise unlimited sway over the materials which he employs, he can, at least, select such as shall best realise his views; and he will, at the same time, be careful to choose such combinations as shall soonest attain, and the longest preserve them in their integrity when once realised.

The ever-progressing power of vegetation, while it enables the landscape-gardener to create a living picture, is, at the same time, his great antagonist, for it realises but to destroy. This power can only be successfully combatted by a careful and frequent superintendence as the wished-for effects become realised. But, as it rarely falls to the lot of the designer of any place to superintend the full development of his views, much must not be hoped for in that respect.

While the several lawns into which a garden may be broken up are to appear in themselves more or less detached, they must afford ready means of passing from one to the other. A sufficient degree of isolation and seclusion can readily be obtained without the former existing in reality. The observations previously made with reference to confinement and restraint in walks bounded by continuous lines of shrubberies are equally applicable to lawns.—GEORGE LOVELL, *Landscape-gardener, Bayshot.*

(To be continued.)

SEEDS OF PICEA NOBILIS.

PLEASE inform your correspondent "G. A." to be careful how he sacrifices his seeds of *Picea nobilis*. A plant here bore a cone last year, the seeds from which were, by many who should be considered good judges, thought almost useless. I sowed them, and have from them forty-eight fine healthy young plants, now making a second growth; and but for my impatience, I should have had more, for some few damped off, from causes well understood by practical men. I was prepared for this, and my object is attained.

I give my name for your satisfaction.—W. B.

[A very trustworthy gardener.—ED. C. G.]

NEW BOOKS.

DALLAS'S ANIMAL KINGDOM.*—We have long felt the want of a text-book of the Natural History of the Animal Kingdom, and it has been a matter of surprise with us that a subject which is so popular with all classes and all ages should have been so long overlooked, and the requirements of the rising generation so long disregarded. Of "Introductions" and "Conversations" there have been several, and of "Alphabets" and "Catechisms" not a few, devoted to various departments of Natural History; but beyond

* *A Natural History of the Animal Kingdom; being a Systematic and Popular Description of the Habits, Structure, and Classification of Animals according to their Organization.* By W. S. Dallas, F.L.S. London: Houlston and Stoneman, and Orr and Co.

these simple, elementary, and often too popularly-written works, we are not aware of any systematically arranged, and produced in a cheap and portable form, to which the student could refer for carrying him forward in the study of a complete course of the Natural History of the Animal Kingdom. It is, therefore, with much pleasure that we hail this work by Mr. Dallas, who has thus rendered good service to the community. While it is written in a clear and popular style, it is, at the same time, strictly scientific—science divested of its technicalities and conventionalisms, and made so plain as that any one who can read may learn. Unlike the arrangement of Cuvier, which begins with the highest orders of animals and descends to the lowest, Mr. Dallas has adopted that which begins with the lowest, and rises to the highest forms of organisation—a system which now finds favour with most modern naturalists. He arranges the subject in five great divisions:—I. PROTOZOA; II. RADIATA; III. ARTICULATA; IV. MOLLUSCA; V. VERTEBRATA; and, as an example of the way in which the subjects are treated, we shall quote his remarks on the PROTOZOA, or that division which includes the lowest forms of animal life.

"DIVISION I.—PROTOZOA.

"GENERAL CHARACTERS.—This first division of the animal kingdom includes a number of creatures of a very low type of organisation, which appear almost to occupy a sort of neutral ground between animals and vegetables.

"The bodies of these animals consist either of a simple elementary cell, with its contents, or of an aggregation of several of these cells; each, however, still appearing to retain its independent existence. They are generally of very minute size, and only to be observed by the microscope.

"It is in vain to seek in these creatures for any internal organs. They are entirely destitute of nervous and vascular systems; and the highest form of alimentary apparatus which is to be found in them consists only of a mouth and a short œsophagus. In many of them, however, no trace of any alimentary canal is to be discerned, and these either live by imbibing fluids through their outer surface, or by the amalgamation of solid substances with the gelatinous mass of which they are composed. The gelatinous matter, which has been termed *sarcode* by M. Dujardin, frequently has vacant spaces like small bladders in various parts of its substance; these appear and disappear according to circumstances or the will of the animal. They have, nevertheless, been mistaken by Ehrenberg and other observers for so many stomachs, although no one has ever attempted to prove the existence of an intestinal canal uniting them.

"Almost all these creatures live in water; a few only inhabit the intestines of other animals. They generally present the appearance of a transparent gelatinous cell, in the midst of which a more or less distinct *nucleus* is to be observed. In addition to this nucleus, one or more clear pulsating spaces may be distinguished in the interior of the cells. These appear, in some degree, to effect a sort of circulation of the soft substance of the body, and may, therefore, be regarded as the first shadowing forth of a circulatory system. Many of them approach very closely in their structure to the germs given off by some of the lowest forms of aquatic plants, which, singularly enough, possess quite sufficient locomotive power to enable them to pass for animals, when the observer is unable to trace their development; indeed, many of them have been described as belonging to the present group. It is very probable, in fact, that a great number of the creatures still included in this division by naturalists will prove, on further investigation, to be vegetable organisms.

"The reproduction of these animals is generally effected by the division of the substance of the creature itself. In some instances, two of them combined to form a single cell, which afterwards splits up to allow the escape of a number of young cells. The division always commences in the nucleus above mentioned.

"Some *Protozoa* are also propagated by the division of their substance in a different manner. A small bud shoots out from some portion of the body, which gradually becomes developed until it resembles its parent, when it is usually cast off to shift for itself.

"Many of these animals, simple as they may appear, have yet the faculty of producing a shelly covering, for the support

and protection of their gelatinous bodies, and these are not without their importance in the geological history of our planet. The chalk hills, whose cliffs are so characteristic of the south-eastern coast of this country, consist almost entirely of the shelly coats of innumerable multitudes of these minute creatures."

"The Sponges, perhaps the lowest forms in which animal existence is presented to our observation, are to be placed in this division, as they are also found to consist, essentially, of an aggregation of nucleated cells. It has often been considered doubtful, whether these creatures are really animal organisms, as in many points, and especially in their mode of propagation, they very closely resemble the lowest forms of plants. Their true nature has long been a moot-point with naturalists; and by some zoologists they are altogether rejected from the animal kingdom, although the most recent researches, and especially those of M. Laurent and of Mr. Carter, appear to establish their animal nature beyond a doubt."

Mr. Dallas then proceeds to the classification of the *Protozoa*, which he divides into—1. *Rhizopoda*; 2. *Porifera*; 3. *Infusoria*; all of which are treated at length in their orders and genera, with a full account of their organisation, and the habits of the different families.

The work is copiously illustrated with wood engravings; and when we state that the author has followed the most eminent naturalists in the various departments, we feel an assurance that his work will meet with that acceptance to which its merit entitles it.

THE STEPPING STONE TO NATURAL HISTORY.*—This is an elementary work, suited to much smaller capacities than the former; yet, nevertheless, one which also has its claims and its mission. It is rightly termed a "Stepping Stone;" for it is so simply and so clearly written, as to make the subject not only attractive, but intelligible to the dawning intellects of youth. Arranged in the form of question and answer, it embraces the whole of the vertebrate animals; and while it treats the subject scientifically, it is so familiarly explained and so progressively developed, as to cause no great effort to the mind of the pupil. We like to see such works, which are intended for the instruction of youth, written, as this is, with every regard to the most recent scientific correctness, while at the same time the subject is clothed in such language as to make it easy of comprehension. It is beautifully illustrated with very fine engravings on wood.

THE DESCRIPTIVE GEOGRAPHY OF ENGLAND.†—There cannot be a more instructive book for making young persons acquainted with the topography, resources, and constitution of their native country than this. It is, as its title states, a Catechism, and contains a vast amount of useful information on the subject which it embraces. It is copiously illustrated with views of the principal objects throughout the country, and cannot fail to be eminently useful as a book of instruction for youth.

BURNING CLAY

Has been practised as far back as history can carry us, and it is needless to say that in our day is made subservient both for use and ornament. Yet gardeners and farmers are a long way behind the potters and railway contractors in making the best use of it when within their reach.

I am in the full belief that one-third of the gardens in the country have a clay subsoil, or at least a strong adhesive loam. Now, we all know without such is placed in favourable situations, it prevents us from gaining one of the principal objects of all gardening, namely, early fruits and vegetables. Besides, it encourages their growing propensities till a much later period in the season, therefore making them more liable to be destroyed by frost, when, at the same time, for summer work, if deeply trenched, it is the best for keeping up supplies of Peas and other favourite vegetables,

such supply being almost an impossibility on dry, gravelly soils.

What we want, therefore, is a soil intermediate. I have had to deal with as tenacious and adhesive soils as, I believe, can possibly be come in contact with, and I have tried silver sand by the hundred-load, ashes, lime-rubbish, black peat, and every come-at-able moveable thing at all suitable that I could procure to try and change the nature of such soils, but without much success. Indeed, some soils, apparently, the more you give them the more self-willed they get; for if a little damp, even after all this expense and bother, they stick to the spade like pitch half hot; and again, if dry, are as stubborn as some of our old-fashioned bricks. In fact, such soil must be got rid of altogether or burned. I prefer the latter. But A. says, "I commenced by rearing a pile, pyramidal fashion, of some two or three cart-loads of wood, covered it with clay, and then set it on fire; but, behold you, after labouring hard at it for a week, I found that the wood had burnt the clay, which was of a very tenacious nature, only a little way through, leaving it hollow similar to an oven, or rather, something like those apologies for grottos that your would-be-natural-still gentlemen leave behind them."

B., again, tries the horizontal style; has a quantity of wood laid, being very particular about certain veins; or what he calls flues of wood are properly laid at certain distances; then lays on a quantity of clay, then another layer of wood, and then a little more clay, taking care to mix the wood and clay well together as he proceeds. B. then sets fire to his pile, and to his delight it smokes nobly. I say nobly, for if the air is at all hazy before the smoke mixes with the atmosphere, it hangs over his head in dense masses, giving a pretty good outline of huge irregular mountains. He is told, also, that it burns better wet than dry, and is pleased when a shower or two occur in the course of the week, which all helps to keep up the smoke, but frequently at the end of the week he finds out the only portions at all burnt are his favourite flues. But B. is one of those who are not going to turn from their favourite ways for a little obstacle; and, therefore, the idea of digging out cross flues, and filling them up with wood, is no sooner thought of than put in practice, and a tough job it is. However, it is got over, and the torch is again applied, and away roars the fire; but, alas for poor B.! it leaves the bulk as it was, and, at the end of a fortnight, he finds he has a large clump of clay intermixed with sticks, which one can imagine B. wishes anywhere else.

C. tries the kiln order, and builds a wall of turf or clay in a circular form, making all tight with the exception of one place to admit air. In laying his pile he acts on similar principles to B. Now, A., B., and C. are, no doubt, good dry turf or couch-grass burners; but as far as my experience goes, they are, to use one of your learned writers' words, pseudo clay-burners, and, as sure as they try, will burn their own pockets or of those who may employ them.

Believing the following is a step nearer in the right direction, I lay it, with your permission, before your readers:—Take, for instance, a vacant quarter that is intended for winter crops. Commence by casting out a trench at one end, say two feet wide, and as deep as the soil in cultivation goes; but supposing it is two feet deep, I would then go a foot deeper into the clay, and place it on the top of the soil in the form of a ridge, keeping it as loose as possible. Then take another, two feet in width, cart the soil into the trench, and place the clay on the top of it, similar to the last, and so on. If you intend draining it you can leave it lower where the drains are to be, which will save the trouble of removing the earth twice. At the end of a fortnight, if the weather has proved dry, what you dug first will be in good condition to commence burning. Begin in the same way that a housemaid does with her fires in the grates, using little wood and lumps of clay in place of coal, taking care to make it burn as evenly as possible, and, after it is fairly started, commence another about four to six feet from it, and so on thus—



or, if you want a large clump together, place a row of fires round the first, or as many more as you like. This will save a great deal of trouble, as, commencing with one fire,

* *The Stepping Stone to Natural History*; Vertebrate or Back-boned Animals, viz., Mammalia, Birds, Reptiles, and Fishes. By James Owen. London: Longmans.

† *A Complete Catechism of the Descriptive Geography of England*. Compiled for the Use of Schools and Private Families. By T. Challener. London: Longmans.

it is sure to draw towards the top, and obliges you to disturb it to keep it low. When you have got the whole in good working order, commence to dig out your drains, and pitch what you take out on the fire also. After your tiles are placed in, fill up the space as far as the clay reaches with rough, hard-burnt clay. When the whole is burnt out, and your drains completed, commence turning over and mixing the soil with the burnt earth, as you will have a good open trench at the end where you left off.

If the above system has been adhered to, you can, with little trouble, when turning it over, make an artificial sub-soil of burnt clay above the original clay, and if the drains are filled up with burnt clay in connection with it, it will give you a nice dry foundation.

Need I say that vegetables will luxuriate in a mixture of this description, particularly if a good dressing of manure is mixed with it, or a good soaking from the drainings of the farm-yard? Nor need I tell those who are about to make new Vine borders that a lesson may be taken from the above, and that it is much better to burn the clay on the spot than wheel it out as I have seen done, and replaced by ditch-banks, &c., that in a few years become nearly as bad as the original, as coals are out of the question in most places, and few gardeners can boast of having nothing to do for half of their men. It must, therefore, in many places, be done betimes; but if there is a will, I am mistaken if there are many places but can produce rubbish enough to put the above in practice without adding to the accounts, though certain, if tried, it will add to the produce.—D. FERGUSON, *Stowe, Buckingham.*

TO CORRESPONDENTS.

LOCATING ROOKS.—P. P. inquires "if there is any plan to induce young rooks, brought up on the grounds, to remain after attaining their full growth? At present they are tame, with their wings cut, to prevent their flying far."—[Can any reader give us information on this subject?]

CLIMBERS FOR A GREENHOUSE (*Roseberry Villas*).—For the trellises in the greenhouse connected with your drawing-room, for immediate effect, procure *Lophospermum Hendersonii*, *Maurandya Barclayana alba*, *Tropaeolum peregrinum*, or *T. majus flore pleno*; and for the better things you might be growing a *Kennedy Marryattæ*, *Jasminum grandiflorum* or *gracile*, and *Podolobium scandens*.

CANVASS FOR SHADING ORCHIDS (*Nepenthes*).—We sent your query to Mr. Appleby, and he states in reply that the canvass is of sufficient thickness to shade Orchids, Pitcher-plants, and any other plants from the tropics requiring shade from bright sunshine. He advises you to have it nailed to a roller, and a flat piece of wood at the top, so that you could easily wind it up round the roller when the sun does not shine on the roof of your house, and let it down when there is a prospect of a sunny day. Orchids love the light, but not the glare of the sunbeams through glass, which is often defective, forming focuses which not only turn the leaves yellow, but actually burn the leaves in spots, which greatly injures and disfigures them. When the sun is low in the west it will not injure the plants; so every afternoon you may roll up your shade from four to five o'clock.

DISTORTED CAULIFLOWER (*W. W. H.*).—It is a Cauliflower running to bloom without forming itself into the usual white head; in fact, a green Cauliflower, just as there are green and purple Brocolis. It is not very unusual.

CLUB-ENDED CUCUMBER (*Japhet*).—From some unexplained cause the seed is perfected, and increases in size at the club end only. This end, therefore, swells the fastest.

WEEDING IMPLEMENT (*W. Moore*).—We are much obliged by your sketch, but the semi-circular blade is far less effective than the double-edged right-angled blade of "Gidney's Prussian Hoe."

RIVERS' "MINIATURE FRUIT-GARDEN" (*D. Dick*).—You can obtain this book through any bookseller. Its price is two shillings.

WEeping ROSES (*A Constant Reader*).—*La Biche* and *Felicite' Perpetuelle* (in your list 22 and 29) are the only two Roscs which can be worked for Weeping Roses. The best Weeping Roses are the Ayrshires, Multifloras, and Evergreen Roses, as *Ruga*, *Bennet's Seedling*, *Queen of the Belgians*, *Splendens*, *Dundee Rambler*, and *Ayrshire Queen*—all these are Ayrshire Roscs. The Multifloras are *Alba*, *Rubra*, and *Elegans*. The Evergreens are the best of all—*Princess Maria*, *Myrianthus*, *Ramuncule*, *Rampante*, *Donna Maria*, and *Spectabile*. This is a good time to make layers of Moss Roscs and all other Roscs; but the laying ought to be done at once.

PINK BROOM (*Goddess*).—It is not Broom, but the common sport into which the purple Laburnum so frequently runs.

NAMES OF PLANTS (*A Constant Subscriber*).—1. *Spiraea bella*. 2. *Robinia hispida*. 3. *Dictamnus fraxinella alba*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. *Sec.* J. Hudson, Esq., 12, Hanover Square, London. Entries closed June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st. *Sec.*, C. Lawson, Esq., Anerley. Entries close July 9th.

BRIDLINGTON. August 27th. *Sec.* Mr. T. Cape, Bridlington.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. *Secs.* G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. Nov. 26th and 27th. *Sec.*, E. Trinder, Esq., Cirencester. Entries close Nov. 1st.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. *Secs.* for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. *Sec.*, Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. *Sec.*, John Spencer, Nottingham.

PRESCOT. July 8th. *Sec.*, Mr. J. F. Ollard, Prescot. Entries close June 21st.

WHITBY. July 16th and 17th. *Sec.* S. Burn, Esq., 1, East Terrace, Whitby. Entries close June 30th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. *Sec.*, J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

HAVE MERCY ON COMMITTEES.

"I CONGRATULATE you on your birthday, Madam," said Dr. Johnson to a lady. "What is your age?"

"Fifty-three, Doctor."

"I believe it," said he; "you have told me so these ten years."

We may infer, then, that an assertion is at last believed if it be constantly repeated, and acting upon such inference, we would again impress on some exhibitors that they inflict wrong on a pleasing pursuit in which they themselves are interested, and on self-denying men who incur much labour for their sole good, when they give unnecessary trouble to the gentlemen acting as Committees to Poultry Shows.

We do not speak of any one in particular, but we know that it is becoming difficult to find acting Committee-men. They are mostly men of standing in their localities; they have no view of profit in what they undertake; and those who have served the office know it involves great labour.

It should, then, be the aim of exhibitors to lessen their work, and to give them all the assistance in their power. Their aim is identical, inasmuch as both love the pursuit; but there is one wide distinction. The profit is to the exhibitor; the loss, if any, becomes the portion of the Committee.

If the Show is a matter of speculation let its promoters be treated accordingly. It is a thing of trade—a compact entered into, whereby one undertakes to provide a proper building and offer certain prizes for competition, and another to send birds of the proper quality and beauty, to secure, if possible, the prize; but, at all events, to attract the public. It is fair to argue, threaten, and protest, in fact, to drive a good bargain and make safe conditions; the secretary becomes the paid servant of everybody who has to do with it. But, where no profit is contemplated, every possible assistance should be given to those who undertake so much labour for the pleasure of others. All should endeavour to lessen that labour, and to co-operate efficiently at all times for the success and comfort of the Exhibition, and they should not be backward in acknowledging the obligations they owe to the promoters. If Poultry Shows ceased all interested would lose a great pleasure; many would miss a profitable pursuit. Poultry Shows are entirely dependent on voluntary Committee-men.

NOTES ON POULTRY BREEDING.

I AM sure that I express the opinion of many of your subscribers when I admire your correspondents, "Pencilled Hamburg," and the gentleman who signs himself, with

Punch's happy and pregnant invention, "Felix Rabbit." They are the most observant, retentive, yet explicit of alctryonologists. To produce such reports as theirs, so large a combination of small talents is called into action, that they will always be rare, and always curious. As it is one great characteristic of "truth," that whenever a bit of it, however homely, is brought plainly into view, it casts unexpected light upon many other fragments—previously but half understood—these poultry records assume a value far beyond that of their theme. A series of facts, carefully observed and plainly told, is of value to everybody. Thus a diary of the poultry-yard may become interesting, not only to chicken-fanciers, but to the sportsman, the stock-breeder, the physiologist, the scientific historian, or the omnivorous student of natural theology. Then, apart from the good done by hobbies, as general humanizers, they are real benefactors to society. Their riders, intent only on trifles, perhaps, accumulate a mass of accurate observations, which are immensely instructive to the labourer in a wider field of learning.

No one need be ashamed of his minute details; so I put on paper the points to which my attention has been attracted during two years' poultry-keeping.

I had read many statements about influencing the sex of progeny by mating parents of different ages. I had also seen many receipts for securing a brood of all cockerels, or all pullets, by carefully selecting the eggs by their shape. I think I have proved that neither the one nor the other method can be relied on. I have put old and young birds together; picked round and long eggs, and set them separately; but I have never seen such uniformity of result as warrants one in declaring a law to go by. Sex in progeny is decided by influences more recondite than either of these.

From two parents, each one year old, I this year had three broods; two of eleven each, one of nine. The first consisted of nine females and two males; the second of seven males and four females; the nine had six males and three females. From a three-year-old cock running with a pullet I had a brood entirely of cockerels. From the same cock and another pullet I had a brood of equal numbers of each sex. In the broods from a two-year-old cock and pullets, now one sex prevailed, now the other. My last year's experience was very similar. Without any apparent cause there was a preponderance of male chickens at one time, and females at another, and without there being any noticeable difference in the shape of each hen's egg.

Another thing might also be seen. At one period of the laying traces of a bygone cross would be clearly detected, which was undiscernible before and after that particular time. For instance, I have a yellow Cochin hen, from which I have bred for two seasons. Nothing could be more true to colour than were her first twenty chickens last year. I do not think there was one among them that would not have been called yellow, too. A "June" brood, after these, consisted of nine chickens, of which six were decidedly dark cinnamons; yet in a later brood the mother's colour again prevailed, and the whole were yellow.

Why should this variation in colour occur, when the sire and the keep of the parents never varied? Yet it has happened again this year; in one brood only the dark feathers re-appear.

Another hen's produce was liable to a different aberration. She had a taint of Dorking blood, as I suppose, some generations back. I know her parents for two generations have been pure Cochins. Nothing could be more thoroughbred than were her earliest progeny last year and this. Yet, from a late sitting of her eggs in 1855, three cockerels sported magnificent white sickle-feathers in their tails. In none of the other broods did this occur. I fancied the hen had had access to another cock, although I could not conceive where it should have happened. But again this year, I see, some chickens of hers, in one brood, are showing unusually early tails, and I am sure there can have been no *mésalliance*. There is a latent taint, which appears for a time and disappears again; no one can tell why.

One thing, I think, is determined. Such eccentricities have always been seen at the close of a protracted laying. It seems as if, in the debilitated condition caused by artificially-prolonged productiveness, "sports," to use the florist's term, are to be expected. It is a curious question, how long

these latent tendencies may remain unsuspected, and why they should occur in a number of eggs consecutively. But I think this is quite long enough a trespass on your columns from—LANTERN.

THE WILD BLUE ROCK PIGEON.

COLUMBA SAXATILIS LIVIDA.

French.

German.

PIGEON BISET SAUVAGE.

DIE BERGTAUBE.

THE name of Blue Rock Pigeon is so generally in use, that one might naturally suppose that this was a common bird; but, on the contrary, it is comparatively a very rare one. I allude to the real Blue Rock Pigeon, *Columba Livia* of some naturalists; and not to the Chequered Dove-house Pigeon, *Columba agrestis*; nor to the tree-perching Stock Dove, *Columba Oenas*, which might be appropriately called *Palumbus minor*, with both of which it is very often confused, and from each of them it is quite distinct. The Blue Rock Pigeon is a trifle smaller than the common Pigeon, being more slender in its proportions; the bill is thin and dark, the eyes a bright orange red, and prominent; the feet red, and the nails dark; the general colour of its plumage is a clear, light, greyish-blue, having a greenish gloss on the neck, varied with violet and copper reflections; the secondary wing feathers and the larger covert feathers have each a black spot, which form two distinct black bars on the wings; the rump is white; the tail has a black band near the extremity; and the external feather on each side has a white outer margin.

The Blue Rock Pigeons do not frequent woods and trees, like the Stock Dove; neither are they so easily domesticated as the Dove-house Pigeons. The true Rock Pigeons are exceedingly wild and shy; they frequent rocks, cliffs, caves, and caverns, preferring the sea-coast, and nesting among the most inaccessible rocks, frequently in company of gulls and other sea-birds, where the old ones are sometimes shot by the adventurous sportsman, or the nest still more rarely robbed of the young birds.

A few of our old baronial dovecots, I believe, are still peopled by this sort of Pigeon; but they are very restless, and avoid the haunts of man, and, I believe, are difficult to domesticate. They do not produce more than two, or at most, three pairs of young ones in the season. Intractable and fond of liberty as the Blue Rock Pigeon is, it has been almost overlooked by some, while other naturalists have named it as the origin of *all* (?) our tame Pigeons; but I think this, as well as the Stock Dove, must surrender its claims to the Dove-house Pigeon in this respect.—B. P. BRENT.

WHAT ARE CRÈVE CŒURS?

At the Paris Agricultural Exhibitions the first place is awarded to the variety of poultry termed Crève Cœurs. On this side of the Channel there is some doubt as to what are the distinguishing characters of this breed, to which so great a degree of importance is attached by our neighbours. As a breeder of these birds, I have much pleasure in calling attention to their great merits in a profitable point of view, and in describing their characters from practical observation, and from the French work on poultry, printed under the authority of the Minister of Agriculture, in which they are thus described:—

"In Normandy, especially in the neighbourhood of Crève Cœur, there is a variety of fowl which supplies Paris with the handsome poultry with which the markets abound.

"The hens are low on the legs, with large, fleshy thighs, the wings large, and the body square; the abdomen is voluminous and pendent, especially in those which are more than a year old; they walk slowly, scratch but little, and do not fly. Their plumage is black, or black and white variegated; they carry on their heads a large tuft, and a small upright two-horned comb; whilst a large cravat of feathers under the neck gives to them a matronly air. They are very tame, ramble but little, and prefer seeking their food on the dunghill in the poultry-yard to wandering afar off. They are somewhat later in laying, and, perhaps, lay less fre-

quently than the common (French) fowl; but their eggs are much larger, and they continue to lay a longer time; they sit badly, and are apt to break their eggs from their great weight, which is, at least, one-third more than that of the common fowls; they are very easily fattened.

"The cocks, which are smaller in form than the hens, have a brilliant plumage, somewhat golden or silver-coloured (*soit doré, soit argenté*); their heads are handsomely surmounted with beautiful tufts, and large-toothed, two-horned combs, which together form a kind of crown; they have also dense cravats of feathers, adorned with handsome pendent wattles."

The capons of this breed are further stated to be four kilog., or nine pounds English in weight. To this description I will add a few remarks, with which I have been favoured for publication in "The Poultry Book," by Mr. H. B. Higgs, of Southampton, who, after seeing these fowls at the Paris Exhibition, in 1855, obtained a set from Normandy, that precisely correspond with the description above given. Mr. Higgs states the hens to weigh $7\frac{1}{2}$ lbs. to $7\frac{1}{2}$ lbs. each; that they are non-sitters, good layers, producing large eggs—many weighing 4 ozs. each, and that they are plump, heavy birds for the table. Their plumage he describes as black, with a full crest, and a two-horned comb 14 inches in height. The cocks, black, with slightly golden-pencilled hackle, drooping black crests, and large-toothed, two-horned combs, resembling closely the flat, expanded horns of the fallow deer.

To these authorities I will add the results of my own observations. From actual dissection I can state that Crève Cœurs are fleshy on the breast to a greater degree than any fowls I ever examined, except Bantams; that they fatten externally, with a remarkable absence of offal. Though crested, they are not Polands, but have a totally different osteological character. Their eggs are larger than those of any variety of fowl with which I am acquainted, not even excepting Spanish. With regard to their hardihood and rate of growth, I can only state the results of my own experience in reply to the dogmatic assertions of their being ill-suited for our climate, made by those who have, evidently, never bred them. I have found them hatch well, and grow remarkably fast. One brood which I have contains some half-bred chickens (bred from a Cochin hen and Polish cock); but the Crève Cœurs are double their size and weight. As to their hardihood, although they are on an unmitigated and undrained clay soil, and have never had any other shelter than an open shed, I have not lost one chick. My opinion respecting them is, that they are a most valuable addition to our stock of profitable (as distinguished from ornamental) poultry, combining, as they do, the good points of both Spanish and Dorking. Their drawbacks are their non-sitting (if that can be called a drawback which leads to an increased and prolonged production of eggs), and their black legs, which are not so highly esteemed as white ones in a market fowl. The uncertain character of their plumage is of no weight, as it can be remedied by a couple of seasons' careful breeding. It may be stated, that a pen of these birds was passed over without notice at the last Birmingham Show. This is true; and I have heard that the Judges imagined, from the striking difference in the combs of the cocks and hens, that they were not of the same breed, and, therefore, declined to award a notice to them.

One thing only appears requisite for their due appreciation. Let them get into the hands of the dealers and be sold at 100 guineas a pen, and then, like half-bred Chittagongs and wretched Rangoons, we shall hear that they have never been exhibited without having taken prizes.—W. B. TEGETMEIER, *Tottenham*.

QUANTITY OF FOOD FOR FOWLS.

"I KEEP a large number of fowls, and I want to ascertain what quantity of food I ought to give each fowl per diem. At present they are fed two or three times a day, but no regular quantity is measured out; in fact, we give them what we think sufficient, but this is just as likely to be insufficient, as we have no data to go upon. Will you kindly assist me out of my difficulty?—A NOVICE."

[It is very hard to fix any quantity of food for fowls, as it varies according to the season, the kind, and their condition. The only way to feed fowls so as to combine economy of food with well-doing of the birds is, to do it entirely by hand, i.e., give them meal mixed with water, made into small pellets and thrown down one or two at a time. When the fowls cease to run after them leave off feeding; they have had enough. This should be done morning and evening. In the middle of the day some whole corn—wheat is the best—should be scattered among the grass. This process is not tedious, and after two days you will know the exact quantity to mix.—B.]

BRISTOL AND CLIFTON POULTRY EXHIBITION.

THE natural beauties of Clifton and its neighbourhood are most probably notorious to most of our numerous readers; its alpine scenery, its extensive "Downs," the purity of the air, and its highly-valued medicinal waters, causing it to be the general resort of tourists and invalids. Still, however, an additional attraction presented itself on the occasion of its recent "first attempt" at a Poultry Exhibition. It was held in the Clifton Zoological Gardens, a situation highly appropriate for such an undertaking, and we must, indeed, add our full meed of praise of all the arrangements; they had been well considered and "fully carried out" by several poultry amateurs of well-known experience in such matters. We are gratified in being able to state, also, that it was well supported by the public generally. The gardens are, at this season, quite a treat, and well worth inspection, simply on account of the variety and abundance of specimens of floriculture that meet the eye of the visitor on all sides. Not only the botanist, however, but the naturalist may also pass a well-spent day in the inspection of the best collection of animals we have yet visited. It is but due to this society to state, that the grounds far exceed most of those to which the public have access for the careful attention and good management that are everywhere apparent. The carnivorous animals have as little restriction placed upon them as is consistent with their safe retention, and appear to derive additional advantages from the but little restrained opportunities of exercise they thus enjoy. The lawns are very extensive, and the herbaceous abundance of the season finds plentiful supply of food for a most interesting variety of foreign cattle, nylgaus, llamas, antelopes, &c., which, though securely tethered, appear to the visitor, at first sight, as roaming at perfect freedom in their own self-selected pasturage. All appear exceedingly tractable and domesticated; very many are accompanied by their young, which adds not a little to both the interest and really intrinsic value of the Exhibition. The productiveness of the varied assemblage is everywhere similar; young lions, bears, deer of different kinds, and even monkeys gambolling about in all the frolic of juvenile simplicity, quite regardless of the very close inspection of the more curious among the spectators. How very different to their nature in their native wilds, and how conclusive of the simple fact, that unvarying kindness begets reliance and even affection in the most savage of the brute creation. But leaving this portion of the grounds, our attention was most especially directed to the department for the water-fowls. The water and its numerous islands are, of course, altogether artificial, but certainly betray very little in their general appearance to lead to any such supposition; they are, on the contrary, rugged, wild, and natural. Under the shade of the numerous and now well-grown trees with which these islands abound, there has been wisely introduced a plentiful addendum of different Ferns, contrasting to much advantage with the large and rugged pieces of rock-work, and giving an air of universal quiet and secretiveness, which the wild fowl (?), as they are called, seem to have fully appreciated. Many groups of youngsters were very sedulously employed in feeding on gnats and other small insects on the surface of the water; and among them we were somewhat surprised to notice the newly-hatched offspring of the common Widgeon, the Pintail, the Pochard, and Black Swans, all apparently the best of friends, and associating in perfect amity. To many parties who have expended consi-

derable sums in vainly endeavouring to "breed" these uncommonly beautiful varieties of water-fowls in a strictly domesticated state, we would really advise, ere they give up the attempt, that they should pay a visit to these gardens, and witness for themselves what a little well-advised pre-arrangement in such matters will effect, even when the naturally wary parents are continually placed under the inspection of curious visitors; and how much more certainly successful results might be anticipated in private grounds, where the original stock was altogether unmolested. Strange as it may appear to some readers, the confidence displayed by these young broods was most remarkable; they were continually running about the banks and rock-work, striving to reach some much-coveted morsel, and would frequently come within only a few feet of the spot where visitors were standing, enticing them with small portions of broken bread, of which they appeared to be excessively fond, or, as suddenly plunging to the bottom, would quickly re-appear with a stray crumb that to the bystanders had sunk quite unobserved, the female parents merely calling them to order when "a stray little one" (perhaps scarcely larger than a common wine cork), had ventured incautiously among the broods of some larger variety. The conduct of the Australian Black Swans to their young is, perhaps, as interesting as any part of this extraordinary scene. When tired with their previous exertions, the cygnets swim rapidly towards the mother, and gaining an expeditious footing on the back of their parent, nestle closely between her wings, evidently quite enjoying the increased warmth of the body, combined with the still more powerful heat of the midday sunshine. We were informed these aquatic rides were never indulged in except in the finest weather; and the parental anxiety of these rare water-fowls for their broods was still farther illustrated when thus floating listlessly about. If a piece of bread was then thrown near them on the water, the mother would instantly break it into small pieces, and after taking the fragments one by one in her bill, she would quickly, without disturbing them, feed all the cygnets as unconcernedly as possible, the "family group" remaining all the time quite happy and contented.

We have made this little digression from established rules in the present report of the Clifton Poultry Show because we have oftentimes heard many complaints of non-success in the raising of these descriptions of truly ornamental live-stock, and even to the expression of positive conviction that Teal, Widgeons, Pintails, and the different varieties of water-fowls, that migrate into this kingdom only during the severities of winter, could not possibly be prevailed upon to breed if deprived of their liberty and forcibly detained.

Now, a few remarks appertaining more especially to the Poultry Show itself. The arrangements, as we before said, were excellent indeed. Two very large and most superior tents afforded ample accommodation for considerably more than five hundred pens of first-class fowls in single rows. No possible complaint could therefore be urged as to difference or advantage of position, and the manifold superiority of this arrangement to the adjudicators and the visitors also must be obviously appreciated by all who saw them. The *Spanish* were very superior, Captain Hornby securing the Cup. In *Dorkings* (coloured) the improvement was manifest most particularly, the Dorking Cup being obtained by Mr. Wm. Bromley, of Smithfield, Birmingham, by the exhibition of the best pen of chickens that have ever been known to compete so early in the season. They were truly gigantic birds. The *White Dorkings* did not surpass mediocrity. The *Game* were, however, well represented. Many of the *Hamburgs* were very good; but we particularly noted one pen of most especially perfect Golden-spangled *Hamburgs*, that, in accordance with the strict rules (as published), were instantly returned to their owner from one of the hens being seriously affected with the roup. Her head was swollen prodigiously, and her health had evidently been failing for some time. It is a matter of regret that any real amateur should send poultry so grievously indisposed to be placed in close propinquity with the birds of his near competitors for several days consecutively, when it is well known the serious injury that may arise from so doing. From these convictions the committee wisely determined on visiting each pen separately prior to the Judge's adjudications, and "removing all affected birds, without any favour or affection."

In carrying out this regulation, about five or six pens were

thus removed. Now, on this subject, so truly vital to all exhibitors, it will be well to suggest the great impropriety of "clothing" the baskets in which fowls travel at this warm season. Nothing can possibly be adopted more likely to predispose to roup than want of circulation in the surrounding and confined atmosphere of baskets thus actually "closed in" with outside coverings. We particularly noticed one instance, where some "green-horn" of a proprietor had literally completely covered, *in toto*, top, bottom, and all sides of his hamper with oil-sheetings! and, consequently, these fowls were received in a state of utter exhaustion; whilst their recovery from this really cruel ill-usage is entirely attributable to the unwearied exertions of the managers generally. The *Polands* were excellent; and in the class for any variety it is very rarely so good and varied a selection has appeared before the public. A pen of *Malays* (for which there was not any fixed class) here very deservedly took the first prize, nor do we call to mind ever noticing their superiors. The *Geese* and *Turkeys* were good in quality; but the entries in these classes were not numerous, as interfering at the present time very much with the brood birds.

Of the *Pigeons*, generally, we cannot speak too highly; the *Runts* were especially deserving of attention. There was not, throughout, any one class that was not well represented; and that for "any other variety" was replete with the choicest and most beautifully-feathered species of *Pigeons* commonly known as "Toys."

The fowls were exceedingly well attended to, and after the close as speedily returned to their owners, a feature always the most likely "to insure success another time;" indeed, we are informed no death or illness took place during the period the poultry remained "on view."

The prizes throughout the whole Exhibition were finally awarded by Mr. Edward Hewitt, of Eden Cottage, Sparkbrook, near Birmingham, who, at the last moment, was compelled to officiate single-handed, both as regards the fowls and pigeons, as the committee were disappointed at the last instant in the services of the gentlemen they had previously secured, and on whom they had confidently depended. This difficult and thankless task occupied about five hours, and we are pleased to find the decisions were satisfactory to both the competitors and the committee. The success of the Show just concluded is so good, that we hear its annual renewal will be the certain result; and with so indefatigable a management we do not ourselves doubt it will soon rank among the most important of our poultry meetings.

HULL POULTRY SHOW.—JUNE 25TH.

THIS was held in the Hull Zoological Gardens. We have the authority of the Judges for saying that a better Exhibition, both as to number, and above all, as to the quality of the birds, has never been seen in Yorkshire. This is indeed great praise for so young a Society.

As a specimen of the liberality with which the affairs of the Society are conducted, we may remark, that the chief prizes of the day were a handsome silver cup, of the value of £5, which was offered for the best pen of fowls, and a handsome silver medal for the best pen of *Pigeons*. Considering the superiority of the Exhibition, we believe the committee will have no reason to regret their liberality.

No fewer than two hundred and forty pens of poultry, &c., were exhibited, and amongst them were certainly some of the best and handsomest fowls we ever beheld. Dr. Pierson, of Bridlington Quay, was the fortunate winner of the cup, with his pen of Black *Spanish* birds. These were admired by all, both for symmetry and splendour of plumage. The show of *Cochin-Chinas* was exceedingly good. The two winning pairs of Buff birds of the former species were perfect marvels for size, whatever other good points they may have had in the eyes of the Judges. *Dorkings* were not in such great force. The two Brown-speckled Dorking hens belonging to the Rev. G. Hustler were much admired; if the cock classed with them had been equal to the hens, there is no doubt they would have held a higher position in the list. Of the various sorts of Spangled *Hamburgs* the display was superabundant. All the *Game* fowls received the unqualified commendation of the Judges. Mr. Beilby's and Mr. Picker-

ing's birds attracted very general attention. In the sixteen pens of *Pantans* were very many capital birds. Master Horner, of Hull, carried the two prizes in one class with two pens which were the envy of all the visitors.

Very few *Ducks* were entered.

There were thirty-seven pairs of *Pigeons* brought together. Mr. Roach won the medal with a pair of beautiful short-faced *Tumblers*. Mr. Tonge's pair of *Carriers* were really admirable, and will hereafter be, as they were yesterday, very difficult to beat.

The Judges for fowls were Messrs. F. Ferguson, of Walkington, near Beverley, and E. Ash, of Malton. For pigeons, Messrs. Jowsey and Morton, of Hull.

Prizes were awarded as follows:—

SPANISH.—First, Dr. Pierson, Birdlington Quay. Second, Mr. Irvin, Hornsea. Third, Mr. Dixon, Horton, near Bradford. *Chickens*.—First, Dr. Pierson.

COCHIN-CHINA (Buff or Cinnamon).—First, Mr. Barker, Hovingham. Second, Mr. John Mell, Hessle. *Chickens*.—First, Mr. Barker. Second, Mr. Taylor, Newland.

COCHIN-CHINA (Black or White).—First, Mr. Smith, Sheffield. Second, Mr. Wells, Newland. *Chickens*.—First, Mr. Wells, Newland.

COCHIN-CHINA (Partridge or Grouse).—First, Mr. Newsome. Second, Mr. Turner, Hull.

DORKINGS.—First, Mr. Barnard, Bigby, near Brigg. Second, Mr. Marris, Chase-house, Ulceby. *Chickens*.—First, Sir J. Nelthorpe, Bart., Scawby Hall. Second, Rev. G. Hustler.

GOLDEN-SPANGLED HAMBURGS.—First, Mr. Richardson, Thorne. Second, Mr. Russell, Malton.

SILVER-SPANGLED HAMBURGS.—First, Mr. Dixon, Horton. Second, Mr. Smith, Arnold Grange, Skirlaugh.

GOLDEN-PENCILLED HAMBURGS.—First, Mr. Brown, Malton. Second, Mr. Dixon, Horton.

SILVER-PENCILLED HAMBURGS.—Second, Mr. Dixon, Horton, near Bradford.

GOLDEN OR SILVER POLANDS.—First, Mr. Dixon. Second, Mr. Winter, Hull. Third, Mr. Harvey, Sheffield.

ANY OTHER VARIETY OF POLANDS.—First, Mr. Dixon. Second, Mr. Holloway.

GAME (Black-breasted or other Red).—First, Mr. Beilby, Beverley. Second, Mr. Pickering, Hull.

ANY OTHER VARIETY OF GAME.—First, Mr. Dixon. Second, Mr. Gooseman, Grimsby.

GOLDEN OR SILVER BANTAMS.—First and Second, Master Horner, Hull.

ANY OTHER VARIETY OF BANTAMS.—First, Mr. Brittain, Staddlethorpe. Second, Mr. Dixon.

ANY OTHER VARIETY, OR FARM-YARD CROSS.—First, Rev. J. C. Wall, Spoutley.

BEST COCHIN-CHINA COCK.—First, Mr. Mell, Hessle.

SPANISH COCK.—First, Mr. Dixon.

DORKING COCK.—First, Mr. Read, Market Rasen.

GAME COCK.—The whole of the entries in this class were commended.

COCHIN-CHINA HEN.—First, Mr. Barker, Hovingham.

SPANISH HEN.—First, Mr. Dixon, Horton, near Bradford.

DORKING HEN.—First, Mr. Barnard, Bigby, Brigg.

GAME HEN.—First, J. Staley, Walkington.

HEN OF ANY OTHER BREED.—First, Mr. Dixon, Horton, near Bradford.

DUCKS (White Aylesbury).—First, Mr. Owston, Brigg.

ANY OTHER VARIETY OF DUCKS.—First, Mr. Ridsdale, Walkington.

PIGEONS.

CARRIERS.—First, Mr. Tonge, Hull. Second, Mr. Deakin, Sheffield.

CROPPERS.—First, Mr. Tonge. Second, Master G. Horner, Hull.

TRUMPETERS.—First, Mr. Beilby, Beverley. Second, Mr. Padgett, jun., Howden.

TUMBLERS.—First, Mr. Roach, Hull. Second, Miss Richardson, Thorne.

ANY VARIETY OF TUMBLERS.—First, Mr. Taylor, Newland. Second, Mr. Wells, ditto.

JACONINS.—First, Mr. Taylor, Newland. Second, Mr. Hopper, Beverley.

FANTAILS.—First, Mr. Taylor, Newland. Second, Mr. Beilby, Beverley.

ANTWERPS.—First, Mr. Wells, Newland.

NUNS.—First, Mr. Padgett, jun., Howden. Second, Mr. Robson, Hull.

OWLS.—First, Mr. Robson. Second, Mr. Tonge, Hull.

BARBS.—Mr. Jarratt, jun., Driffield. Second, Mr. Padgett, jun., Howden.

ANY OTHER VARIETY.—First, Mr. Sherwood, Hull. Second, Mr. Padgett, jun., Howden.

All the fowls sent from a distance were forwarded to their destination the same night.

OUR LETTER BOX.

BRABNA POOTRAS AT THE WINDSOR SHOW.—"I beg to call your notice to the fact, that the second prize for Brahmas was not awarded to Lord de Blaquiere, but was withheld (owing to his exhibiting three cocks) at the Windsor Poultry Show.—THOMAS HARVEY D'BAYLEY."

[For various reasons we have determined not to publish the Bath and West of England Prize List.]

MARKING CHICKENS (W. M.).—A very easy way of marking chickens until they moult is to cut certain feathers out of the wing. An imprishable mark is to perforate the web of the wing with a large needle, made red hot. Nothing will obliterate this, and different figures may mark the different breeds.

INDIAN CORN FOR POULTRY (T. T.).—No mode of giving Indian Corn can make it good food. It possesses none of the necessary properties for becoming so. It makes fat, but nothing else, and no chickens fed on it will ever make strength of constitution, or the largest size of which their breed is capable.

CHARACTERISTICS OF GOLDEN-SPANGLED POLANDS (W. H.).—The plumage of a Golden-spangled Poland fowl should be a rich brown, with accurately-defined black spangles on it. The wing should be laced and barred; the breast should be spangled; the top-knot should be large/close-feathered, and, if possible, each feather should be the same colour as the body, but edged with black: the less white in it the better. The cock must have no comb or spikes; and the less wattle or gill he has the better it will be. His wing should be laced and barred.

LONDON MARKETS.—JULY 7TH.

COVENT GARDEN.

There is a good supply of all kinds of *Fruit*. *Strawberries* and *Cherries* come in plentifully, and there are also good arrivals of *Grapes* in excellent condition. *Vegetables* are abundant, and *Green Peas* have now become general.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz.....	6d. to 9d.
dessert	12s. ,, 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen	1s. ,, 3s.	Potatoes, per cwt. ..	3s. to 6s.
Peaches, per doz.	10s. ,, 20s.	Frame, per lb. 6d. ,, 6d.	
Nectarines, do.	10s. ,, 20s.	New, per lb. ..	2d. ,, 4d.
Pine-apples, per lb.	6s. ,, 10s.	Onions, Y'ng, per b'ch. 4d. ,, 6d.	
Hothouse Grapes, per lb. 3s. ,, 6s.		Old, per bushel 5s. ,, 7s.	
Strawberries, per lb. 3d. ,, 1s.		Turnips, per bunch. ..	9d. ,, 1s.
Foreign Melons, each 2s. ,, 5s.		Leeks, per bunch	2d. ,, 3d.
Wall Cherries, per lb. 1s. to 1s 6d.		Garlic, per lb.	6d. ,, 8d.
Cherries, per lb.	6d. ,, 1s.	Horseradish, per bundle	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. ,, 10s.	Shallots, per lb.	6d. to 1s.
Seville Oranges, do.	6s. ,, 12s.	Lettuce, Cos, each	6d. ,, 8d.
Lemons	6s. ,, 12s.	Cabbage per doz. 2d. ,, 3d.	
Almonds, per lb.	2s. ,, —s.	Endive, per score ..	1s. 6d. ,, 2s.
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Celery, per bunch....	9d. to 1s 6d.
Cobs, ditto ..	80s. ,, 100s.	Radishes, Turnip, per dozen bunches	— to 6d.
Barcelona, per bushel.....	20s. ,, 22s.	Water Cresses, ditto..	6d. ,, 9d.
Nuts, Brazil, ditto..	12s. ,, 14s.	Small Salad, per punnet	2d. ,, 3d.
Walnuts, per 1000 ..	9s. ,, 12s.	Artichokes, per lb.	— ,, 2d.
Chestnuts, per bushel 15s. ,, 21s.		Asparagus, per bdl....	3s. ,, 5s.

VEGETABLES.

Cabbages, per doz. 1s. to 1s 6d.		Basil, per bunch	4d. to 6d.
Red, per doz. 2s. to 4s.		Marjoram, per bunch 4d. ,, 6d.	
Cauliflowers, each....	9d. ,, 1s.	Fennel, per bunch ..	2d. ,, 3d.
Brocoli, per bdl.	3d. ,, 6d.	Savory, per bunch ..	2d. ,, 3d.
Savoys	1s. ,, 2s.	Thyme, per bunch ..	2d. ,, 3d.
Greens, per doz. bunch 4s. ,, 6s.		Parsley, per bunch ..	2d. ,, 3d.
Spinach, per sieve ..	— ,, 4s.	Mint, per bunch	2d. ,, 4d.
French Peas, per bshl. 6s. ,, 10s.		Green Mint	6d. ,, 8d.
French Beans, per 100 1s. ,, 2s.			
Carrots, per bunch ..	9d. ,, 1s.		

POULTRY.

The quantity of Poultry spoiled last week has made sellers careful, and has had its effect on prices.

Large Fowls 7s. 0d. to 9s. 0d. each.		Quails	2s. 0d. to 2s. 3d. each.
Smaller do 4s. 6d. to 5s. 6d. ,,		Leverets ..	4s. 0d. to 5s. 6d. ,,
Chickens .. 3s. 0d. to 4s. 0d. ,,		Pigeons	1s. to 1s. 2d. ,,
Geese	6s. to 7s. 0d. ,,	Rabbits.....	1s. 5d. to 1s. 6d. ,,
Ducklings 3s. 0d. to 4s. 6d. ,,		Wild Ditto ..	10d. to 1s. 0d. ,,
Guinea Fowls 0d. to 0s. 0d. ,,		Dottrell ..	0s. 0d. to 0s. 0d. ,,
Plover's Eggs, in bulk.....	0s. to 0s. 0d.		

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 15—21, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
15	Tu	Gastropacha Pini.	29.919—29.772	75—55	S.W.	.41	2 a 4	9 a 8	0 45	13	5 39	197
16	W	Odenesis potatoria	29.617—29.464	73—46	S.W.	.40	4	8	1 30	14	5 45	198
17	Th	Lasiocampa quercus.	29.648—29.543	66—51	S.W.	—	5	7	rises	☺	5 50	199
18	F	Notodonta tritopa	29.744—29.724	76—46	S.W.	.01	6	6	9 a 14	15	5 55	200
19	S	Notodonta Ziezæ.	29.654—29.582	64—46	S.	.36	8	5	9 35	17	5 59	201
20	SUN	9 SUNDAY AFT. TRINITY.	29.951—29.745	73—41	W.	—	9	3	9 52	18	6 2	202
21	M	Sun's declinat., 20° 25' N.	30.107—30.049	80—45	W.	—	10	2	10 6	19	6 5	203

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 73.6°, and 51.4°, respectively. The greatest heat, 94°, occurred on the 17th, in 1834; and the lowest cold, 39°, on the 18th, in 1851. During the period 105 days were fine, and on 91 rain fell.

CHISWICK GARDENS are to be preserved, and, consequently, the Horticultural Society is to be saved from an ignominious death. This is as it should be, and we feel assured there is not one of our readers who does not feel gratified at the intelligence that our National Society is not to be allowed to dwindle away like some obscure *coterie*. True, it has been a *coterie* too long, and would, no doubt, soon have shared the fate of all such, when those who constituted it had passed away; but, thanks to the strong will and determination of a band of true-hearted men, in the face of official blindness and official chicanery, they have succeeded in forming a Council whose resolve is to preserve the Society intact, and to leave no stone unturned till they have restored it to the high and influential position which it once occupied.

There are men who are sceptical on this subject; they “can’t see how it is to be done.” Granting there was no Horticultural Society, do these men pretend to say, looking at the present state of the country, at the tastes and pursuits of every class of the community, and the spirit which pervades a very large portion of the upper and middle classes, that such a Society could not be “got up?” If, then, it were possible to constitute such a Society, surely it will be equally as easy to maintain one already in existence, if there are but the right men in the right place. All that the public wants is an assurance that the Society is under proper management, that the income is not to be put into a bag with holes, showing nothing for the outlay; and that some beneficial results will be obtained by the maintenance of such a Society.

There was a time when all eyes were directed towards Chiswick for the elucidation of great facts in horticulture. Some new mode of cultivation was proved; some new plant, fruit, or vegetable was flowered, fruited, or produced; experiments were in progress, and every now and then the gardening world had its senses startled, or its cravings gratified; but these are things of the past, and for the last twelve or fifteen years the science and the practice of horticulture have been left to ooze out haphazardly, here and there, to make their own way without a godfather. But such a state of things may not continue. The time has come when there is work to be done, and done it will be. Is horticulture a science, or is it like mesmerism, a mere fact, incapable of development or progression? Is it less a science now than it was fifty years ago? If it is a science, let it take up its

position among the sciences, and let it be carried out with that singleness of purpose, without which no work can succeed.

Like a chimney that has long smoked, the Horticultural Society wants sweeping; there are many cobwebs and much soot to clear away; and, unless the new Council is prepared, as we fully believe it is, to apply the necessary remedies, all their work will be in vain. The first thing to be done is to clear off the debt. A society, like an individual, cannot go on and prosper under a burden of debt; and we have good reason for believing that this will form one of the earliest considerations. The house in Regent Street will be sold, or should be sold. Such an establishment, with a ground-rent of £100 a year, is totally unnecessary. A large establishment involves a heavy expenditure; and if the Society can but procure a floor with one apartment large enough for a meeting-room, and another convenient for a library, it will have all that is necessary for its purpose. But why should not application be made to Government for apartments suited for the Society? As a chartered Society, it has the same claim as the Royal, the Linnæan, or the Antiquarian, for all of which it is contemplated to make provision; and we have not the least doubt that if proper representations are made, and if Government can be assured that the management of the Society has passed from the hands of an individual to a liberally chosen and competent body, there will be no difficulty; and with such a Council as has now been formed, we have every reason to assume there is yet a bright future in prospect.

The new Council being appointed, we now wait with interest to know the course they intend to pursue. In the report which we published last week we have what may be called their “hustings speech,” telling us what their views are, and what they intend to do. But, as is there stated, “whatever changes may be contemplated in the privileges, proceedings, or constitution of the Society, must, under the charter, be incorporated in the bye-laws. And as no bye-laws can be valid until certain formalities have been complied with, and the acquiescence of the corporation has been signified in general meetings summoned for the purpose,” it will be some time before the necessary arrangements can be carried out. Still, we hope no time will be lost in making the public acquainted with what the contemplated measures are. There are many who, in consequence of the shameful mismanagement, have hitherto

been debarred from becoming members, would at once come forward, and are now merely waiting to see what steps are to be taken to establish the Society on a sure basis.

Whatever arrangements are made, we trust the Garden, which is, after all, the right arm of the Society, will be placed under such management as to make it attractive and appreciable. Let there be a head-gardener of first-rate talent, and courteous in his manners, who shall be wholly independent of, and irresponsible to, any one but the Council, into whose hands everything pertaining to the Garden shall be committed, and under whose direction all operations shall be conducted. Let the present "departments," which have always been working in antagonism to each other, be abolished or remodelled, and let there be one head, who shall be responsible for the success or failure of the trust committed to him.

In these arrangements there is one whose claims we trust will not be overlooked, and who, for upwards of thirty years, has been a faithful servant and a bright ornament in these Gardens; who, under the most trying circumstances, has shown an amount of forbearance which few men possess, and to whom the Society is deeply indebted for much of the world-wide reputation which it has enjoyed. To Mr. Robert Thompson the horticultural world, both at home and abroad, is under a lasting debt of gratitude; and there is no one, whether members of the Society or visitors to the Gardens, who would not testify to the devotedness with which he has applied, and the success with which he has carried out, all the operations with which he has been intrusted. Therefore, we cannot doubt but his valuable services will be retained. There are many men who could fill the other offices in the Garden; but we know of no one who is able to undertake what has occupied Mr. Thompson a lifetime to acquire, or who is so capable of being at the head of that fruit department upon which he has thrown so much light, and with which his name is so inseparably connected.

LASTRÆA CRISTATA.

THIS Fern has been called by botanists *Polypodium cristatum* and *calypteris*, *Polystichum cristatum*, *Lophodium callipteris*, and *Aspidium cristatum*. In English it is called the *Crested Fern*, *Crested Polypody*, and *Crested Shield Fern*.

Root tufted, stout, and far-branching, producing fronds from the ends of each root-branch. Fronds yellowish-green, several, and in favourable situations more than two feet high; very erect, and the general outline of the frond line-like, the leaflets very gradually decreasing in length. The leaflets clothe rather more than one half of the stalk, the lower half of the stalk having upon it many scattered, brown, blunt scales, green in front, and channelled, but purple below. The lower leaflets are usually opposite, but the upper leaflets are alternate. They are very deeply and regularly lobed,

rather than leafited; the lobes are broad, blunt, sugar-loaf shaped, and sharply-toothed round their edge, the



teeth ending in short bristles. The side veins in each lobe are much branched, and from the base of each main branch rises the vein, at the end of which is the fructification; and its masses, somewhat kidney-shaped, are in two rows, one on each side the mid vein, at a distance equal from that and the edge of the lobe. The cover (*indusium*) of each mass is swollen, permanent, and pale lead-coloured. The masses usually run together by the time the spores are ripe. The spores are at first black, but they become rusty as they ripen.

In very luxuriant specimens, and in specimens growing in very shaded situations, this Fern attains a height of even three feet, and the leaflets are wider apart.

This is one of our rarest Ferns. It has been found on boggy heaths, among coarse grass, at the Lows, on Holt Heath; at Fritton, near Yarmouth, and Surlingham Road, near Norwich,—all in Norfolk; among Alder bushes, at Westleton, and at Bexley, near Ipswich, in Suffolk; on Oxtou Bogs, in Nottinghamshire; in Huntingdonshire; near Madeley, in Staffordshire; and

on Wybunbury Bog, in Cheshire. In *Ireland* it has been discovered on the estate of Lord Gough, at Rathronan, near Clonmel.

We believe this to be Dr. Johnson's *Filix mas ramosa pinnulis dentatis*. He says, it then (1633) grew "plentifully in the boggy, shadowy moors near Durnford Abbey, in Sussex, and also on the moist, shadowy rocks by Maple-durham, near Petersfield, in Hampshire; and I have found it often on the dead, putrefied bodies and stems of old, rotten Oaks, in the moors. Near the old plants I have observed very many small, young plants growing, which came by the falling of the seed from their dusty scales; for I believe all herbs have seeds in themselves to produce their kinds. Gen. i. 11 and 12." (*Gerarde's Herbal*, ed. by Johnson, 1129.) Ray, in his *Historia Plantarum*, also says, that Mr. Goodyer had found it not only in Sussex, but in many other places in England.

Mr. W. Reeve gives us the following directions for its cultivation:—

"The *Lastræa cristata* is a very useful plant for adorning the moist, shady parts of the rockery and shrubbery, as well as for growing in pots for a collection of hardy Ferns; but it is not so beautiful as some other species. When once established, it very shortly becomes free in its growth and low in appearance. Those who wish to grow it as a pot-plant must drain well the pot, and give the plants a compost of loam and peat (fibry), equal parts, with a free admixture of silver sand; and plenty of room will be required as the plant increases in size. It prefers being grown in a damp, shady situation, and a cool rather than a hot situation. When grown in a high temperature, the unfolding fronds become long and weak, and it loses its beauty, and oftentimes damps quite off, or dwindles away.

"It is well adapted for damp, shady places, the shaded part of a rockery included, where it will grow very well in a compost of loam and peat, with a little grit (fine stones or small crocks) mixed with it; and both in this, and also under pot-culture, it will require a moderate supply of water and frequent syringing.

"It may be increased by sowing the ripe fructification (which will be in that state by the latter end of summer) in shallow pans filled with charcoal, lumps of peat, sandstone, and loam, and placed in a damp pit, and shaded closely from sunshine, and the seedlings to be pricked off in the same manner as directed for former genera—always keeping the young plants damp and well shaded, and protected in winter and during the summer months. All the plants in pots should be plunged, or other means taken to keep the roots constantly cool and moist."

PINCUSHION BEDS.

WHAT is more handy than a pincushion, or less likely to get out of fashion? or who can do without it, high or low, rich or poor? We could do better without looking-glasses than without pins and needles, and our credit would enable us to get on, for a time, even without money;

but all would be lost on us without pins and pincushions, for the one half of us could hardly get out of bed without them, and the other half would look like perfect simpletons who could not help themselves; therefore there cannot be any question about the real usefulness of flower-beds on the principle of the pincushion, into which you can stick anything out of hand for the moment, or for a whole season. Let such beds but once get a footing in any good garden, no matter how large or how small it may be, and my word for it, the pincushion itself would be parted with as soon, or even sooner, than a pincushion bed or beds.

You never saw things more handy in all your days, or more suitable, or more appropriate, or more on the principle of economy and true genius than these pincushion beds; and you can always "kill two birds with one stone" by simply adopting them on a principle and on a system. There are lots of them in the experimental garden from choice, from principle, and from necessity. On choice, because they are in good taste; on principle, because it is a principal thing, of course, to try experiments in an experimental garden; and the necessity of such an arrangement was forced on us by the immense number of kinds of plants which were sent carriage-free to London for the purposes of this garden. For the "overplus" of those contributions, and for the odds and oddities from our own new propagating-bed, which is on a new construction, we were forced, last June, to adopt the pincushion-bed system, and about eighteen of them were made off-hand, and planted the same week. If many more plants come in we shall extend the system ever so far; but, really, I must sing out aloud, and say that I have nearly enough for this season, many thanks to the contributors.

After seeing two parcels which are now on the way, I shall name three or four kinds of bedding Geraniums, which will complete, perhaps, the largest collection that ever was made by one person.

There was a seedling of my own in the way of *Tom Thumb*, called *Beaton's No. 50*, alias *Shrubland Dwarf*, alias *Shrubland Scarlet*, which I want particularly; and the one I have from two places as *Diadematum regium*, alias *Regina*, I fear is not true. It is quite wrong to call it *Regina*; I named it myself *Regium*: the meaning is *Royal Diadem*. My beautiful *Countess* came through fair hands from a distance, and is the only one in the collection which has cost me in carriage more than it is worth in the market. Unless *Dazzle* is not on the way, it must also be added to the list of what I want.

Well, about the pincushion beds. They are along the sides of the principal walks in opposite pairs part of the way; then on one side of the walk, and those that are so stand each on its own merits; then they come in groups, more being on one side of the walk than on the other side; and here the planting is more difficult to execute, or rather, the kinds of plants and the colours require more consideration before planting; therefore, this part will be improved on when we see the full effects of the present arrangement.

Every one of the pincushion beds must be exactly of the same form and size. If one of them was bigger or less than the rest, the whole effect and the character would be entirely lost; and the same if the least variation is made in the shape. They are all circles; and after trying and studying the different sizes, that which I think is nearest to the truth, and which is adopted, is just one yard in diameter, and, strange to say, there is not a bit of garden ground lost by the use of them, and this of itself will bring them into use in all places under five acres in extent.

The fact is this: there is a good selection of standard Roses planted on the grass along the walks in the experimental garden, just one yard from the sides of the walks; and we began at one end, and made a pincushion

bed round each Rose-tree, a yard in diameter, and four inches above the level of the grass. Generally, when standard Roses are thus planted, there is from a foot to eighteen inches free from grass, and *below* the level of it, so as to take the watering. Now, and all my lifetime, I have been thoroughly convinced in my own mind that this was only a rude and unartistic expedient, forced on us because Roses are so thirsty, that to raise them on circular mounds, as they do the fancy trees at the Crystal Palace, and, I hope, in all other places, would be little short of madness; for then all the watering in the world would only prove what the Horticultural Society, in their daft experiments, proved in the first Rose-house at Chiswick; that is, proved the death and destruction of every Rose so "operated" upon. Then, to get rid of the ugly hole for ever, and to be able to cultivate the Rose-tree on grass, as the Rose tree requires to be cultivated, wherever it is, the scheme of pincushion beds is exactly the "balance of power" between good and bad cultivation; between the rude attempts of the middle ages, and the present knowledge of "common things;" and you have the flowers as the second bird down by the hit.

The philosophy of the thing stands thus:—All the cultivated Roses like a *cool, moist bottom*, but no standing wet; and all the standard Roses *on grass* ought to get a good spadeful of right rotten dung every winter of their lives, and as much water in summer as will keep the space occupied by the roots constantly moist. The present hole in the grass system can only allow a make-believe in all those essentials, and no more; but adopt our pincushion bed round the Rose plan, and you are master of all the details of Rose culture *on grass*, for which Mr. Rivers will, no doubt, send a handsome contribution to the "Experimental," and pay carriage to boot, or to London, if not right on to Surbiton.

The manner of doing the thing is this:—The Rose-trees, perhaps, are planted on the grass already; but you may know, from the rusty-brown leaves, that they are three-parts starved. Open the grass in a circle of a yard across round each Rose, then scrape off the soil carefully till you find the roots. When you find the roots, pour two large watering-pots full over those of each tree, supposing that you are doing the work as soon as this is printed; then put two or three inches of very rotten dung all over the roots; water again with the rose put on the spout of the watering-pot, and pat down the dung with the back of the spade. Now, the dung is just level with the grass, or nearly so, more or less, and you must keep it out of sight. Any good light garden-mould will do to cover the dung; let it be full three inches deep, or rather more; and, to keep up the sides from the grass, you must use an artistic edging to give dignity to the whole. What we use is the best and cheapest burnt brickbats, and whole bricks of a dark grey colour, such as are too much burnt in the making; but stones would be as cheap, or cheaper in many places, and stumps of larch poles or of any other poles would do if cut into six-inch lengths and sharpened at one end, to be driven down two or three inches close to one another all round. The soil is as high as the top of the edging—ours is four inches high, and quite level on the top, or rather, with a hollow towards the stem of the Roses. Three nice *Tom Thumbs*, and three equally good *Calceolarias* out of about 48-sized pots, will fill one of these beds except the edging. As we do not go quite close to the Rose stem, *Oenothera prostrata*, all the little blue *Lobelias*, *Campanula fragilis*, *Garganica*, and two or three more of them, and many more such "tit bits" will do for edgings.

Again, *Flower of the Day*, all by itself, or *Lee's Attraction*, or *Gain's Attraction*, or *Mountain of Light*, or *Kinghorn's Countess of Warwick*, or *Annie*, both exquisites for pincushions; or, again, for a plainer col-

lection, take *Glowworm*, or *Harkaway*, or *Baron Hugel*, or *Tom Thumb*, and make one bed of any of them, and the opposite bed with the other, and see the difference without an edging; or, to come to the *dandyfication*, use only a selection of the best bedding *Quercifoliums*, *Diadematus*, and such-like.

If your garden is too dry, or too wet, or too heavy for this class, make the pincushion bed accordingly. It need not be more than three inches deep if your soil is very stiff and damp, and the compost may be poor or rich: it is just like making a bed inside a sieve or a tar barrel. No dwarf plant that is at all suitable for beds will come amiss here; but they should all be very choice, and ought to be considered the cream of the place. Next winter, and every winter, when it is dry, empty out every one of these beds, and mulch the Roses afresh; after that, let them always have it in winter. Mix what remains of the old dung with the top soil, and that will do for some years, as you only put it on, as it were, to hide the dung, merely planting to hide the mulching. Very shallow flower-beds want much water in dry weather—the more the better for the Roses, as every watering gives them a fresh feast from the dung. *Crocuses* in spring, choice annuals in May, and late propagated choice plants for summer; but the "Chronicles" will enlarge on the subject.

D. BEATON.

SOIL FOR GREENHOUSE PLANTS.

ALL hair-rooted small-leaved plants like heath-soil, kept open with good drainage, and an addition of pure sand. Owing to a want of definiteness in terms, there is often a mistake made as to the quality of this heath, peat, or bog earth. Properly speaking, bog or peat is the astringent vegetable substance formed of decayed vegetable matter under water, and generally used as fuel. Heath-soil is decayed vegetable matter, mixed with sand, disintegrated rock, &c., formed on high, exposed grounds, where the native Heath generally flourishes. Most plants will rather like a portion of this, so far as mere growth is concerned. For many it would be too open; and a closer, denser soil is required, to cause them to make short joints and to bloom freely. As a general rule, all hair, fine-rooted plants, and all those with fine, Heath-like, needle foliage, require this heath-soil and manure-water, but in weak and small proportions, and even this heath-soil kept open by pieces of broken brick, broken pots, and broken sandstone, and little bits of clean charcoal mixed with the compost, and plenty of silver sand, to make the whole light and easily permeable by water. The hardier and stronger section of these hair-rooted plants will flourish according to their vigour, if they have from one quarter to one half of good fibry loam added to the heath-soil. Many of the strong-growing Azaleas and Heaths will prefer this to heath-soil alone. Almost every plant cultivated in a greenhouse will flourish in such a mixed compost of heath-soil and loam. Heath-soil, however, is often difficult to obtain, and hence Geraniums, *Calceolarias*, and the generality of greenhouse plants are frequently grown without it. The best substitute for it are dried nodules of leaf-mould, or small pieces of old, hard cow-dung mixed with the soil, along with pieces of charcoal, and enough of sand to keep all open. For common purposes, and in loamy districts, nothing answers better than the soil obtained from banks and ridges, thrown up by the sides of the highway, consisting generally of the loam of the adjacent fields and the ground flint of the roads. All dung used in compost should be old, dry, and well decayed. If not, and strength is required, it should be applied as surface dressings, instead of mingling with the compost. Beginners will act most safely in surface dressing.

CLIMBERS FOR GREENHOUSE.

These are to be grown in large pots, and required to give a slight shade. The following will answer this purpose, though by no means the best climbers in the estimation of many, as most of these would grow so slowly, and, at length, reach such a short height, as to be of little use for shading:—

Passiflora cærulea racemosa, purplish.

„ *Colvillii*, blue.

Mandevilla suaveolens, white.

Bignonia chirero, orange red.

„ *jasminoides*, purple and white.

Tacsonia pinnastipula, light rose.

The Passion-Flowers, *Tacsonia*, and *Mandevilla* may be pruned hard back in winter, after the plants have filled their allotted space, so as to give no shade at that season. The *Bignonias* may be treated in the same way, or merely a few long shoots left, as, if these are well-ripened and hardened, they will produce short-flowering shoots from each bud. In fact, the plants may be treated just as you would a Vine, which, if the wood is well-ripened, will produce flowers from buds on short spurs, or on buds on long rods. If the house is of a moderate width, the pots required for these plants will need to be from fifteen to eighteen inches in size. The soil should be equal portions of heath-soil and fibry loam, and well drained. The plants should be kept rather dry in winter; but as soon as fresh growth commences in spring, and the days lengthen, plenty of water will be required, and manure-waterings should be frequently given, or top-dressings of old cow-dung. A pinch of super-phosphate of lime strewed over the surface frequently will be eagerly relished. The *Bignonias* are often described as stove plants; but I have had the *Jasminoides* do well for many years in a cool greenhouse, and there is a fine plant of *Chirero* over the roof of a cool house at Trentham.

HARDY EVERGREENS FOR SOUTH AND WEST WALL.

The following will be found good and quick growing, with the exception of the first:—

Magnolia grandiflora, *Exoniensis*.

Cratægus pyracantha.

Escallonia rubra.

Jasminum nudiflorum.

Ceanothus azureus.

Cotoneaster microphylla, and, if desired, *Cheimanthus* instead of the *Magnolia*. The *Magnolia* will require a barrow-load of heath-soil, part placed round the ball carefully, and the rest mixed with brown, fibry loam, and kept well-watered in summer. The *Cratægus* will grow in any soil, but likes a light loamy soil best, mixed with lime-rubbish and pieces of brickbats. Few things surpass it in winter, with its masses of red fruit. The *Cotoneaster* is equally hardy, and will thank you for a portion of heath-mould in the soil, though it will grow pretty freely without it. A good-sized plant should be got in the first case. In winter and spring it shows to most advantage with its red fruit. The *Jasminum*, instead of green, may be said to be yellow in winter, as the yellow flowers almost totally conceal the wood. The shoots and twigs formed this summer will be loaded with bloom all winter. In very severe weather it would be worth while to throw a cloth over it, otherwise the flowers will be blotched and disfigured. The *Escallonia* likes a little heath-soil mixed with loam to start it freely. In extra severe weather it would be none the worse if an evergreen branch were fastened against it. The *Ceanothus* can hardly be called quite evergreen, but it is nearly so, and its extreme beauty warrants its having a good place. It should have heath-mould and fibry loam immediately near its roots when planted, and good loam beyond. When it has grown sufficiently to

bloom freely its culture is easily managed. All that is necessary is to cut the young shoots of last season's growth back to one bud or two, and the young shoots formed will be terminated with the azure blue bunches of flowers. The *Cheimanthus* is properly deciduous; but then the leaves have not long fallen, when the sweet little flowers make their appearance. There are other *Ceanothuses* fit for such a purpose, such as *rigidus*, *dentatus*, *intermedius*, *papillosus*, &c.; and several of the *Berberis* would also answer, as *dealbata*, *aristata*, *Fortuni*, *Wallichiana*, &c.; also, *Jasminum revolutum*, and the common *Jasminum officinale*.

WATER PLANTS FOR FOUNTAINS.

I presume you mean the *Nuphar lutea* and the *Nymphaea alba*, both very beautiful. Treated as you propose, removing the baskets or boxes under shelter in winter, and keeping them in heat in spring, I have seen the *Calla Ethiopica* bloom beautifully in such a place in summer; also, *Aponogeton distachyon*, *Pontederia crassipes*, and *Nymphaea cærulea* and *rubra*. I have seen the two latter bloom in a pond, even in Scotland, after the beginning of July; but they would not stand the winter. The *Aponogeton* and the *Calla* will do so if planted deep.

BULBS TO ADORN A GREENHOUSE IN SPRING.

The names of these would be endless; for it would be easy to fill several columns with very fine Hyacinths alone, that, if potted before November, would require no more than greenhouse temperature to get them in bloom in spring. Then the same might be said of Narcissus, from the beautiful small-leaved *Bulbocodium* on to *Gloria Mundis*, *Grand Duc*, *Grand Monarque*, *Soleil d'Or*, *States General*, single and double *Whites*, double *Romans*, &c. Jonquills, treated in the same way, would yield a rich harvest of odours. The Crocus tribe would yield great attractions in their almost numberless fine varieties, and would be then in their glory, as they dislike anything like forcing. All the early Tulips, as the Van Thols, with their varieties of gold, rose, scarlet, white, and yellow. The Florentine, *Rosa Mundi*, and Parrot Tulips, and double Tulips, including such kinds as *Duc Van Thol*, *Mariage de ma Fille*, *Tournesol*, *Rex Rubrum*, &c., will then be in their beauty, sufficient of themselves to make a house gay. Then there are the little Squills for a front shelf, such as *Scilla brevifolia* and *Mauritanica*, that always require protection; and such pretty hardy bulbs as *Amana bifolia*, with its varieties of blue, white, and red; *Campanulata*, and its varieties, *præcox*, *Italica*, *verna*, &c., that will bloom very early if protected by a greenhouse. The pretty *Oxalis* group has frequently been alluded to for this purpose. For spring blooming the following would be suitable:—*Canescens*, *cernua*, *flava*, *multiflora*, *versicolor*, &c. These should be watered as long as the leaves keep green, but when the leaves begin to change be allowed to get dry, and be repotted before the bulbs begin to push again. The *Sparaxis* genus are also very interesting, producing their flowers when about one foot in height: *bicolor*, *grandiflora*, *lineata*, and *tricolor* would come in best at that time. They require much the same treatment as *Ixia*, an allied family, namely, to be grown in sandy peat, with a little fibry loam and sand, to be kept well watered when growing and flowering, and to have plenty of air, so that frost is excluded; when done flowering, and the leaves are getting a tinge of yellow, to be allowed to dry gradually; and then the roots to be kept in a dry state, either in the pots or out of them, repotting again in autumn as soon as the bulbs give signs of moving. Almost every one of the twenty or thirty species or varieties will bloom on the shelf of a greenhouse from March to the end of May, and without anything like forcing being required. I might also instance *Tri-*

tomas, Anomethecas, Ornithogalums, Leucojums, &c.; but what have been mentioned will be sufficient for any moderate-sized house.

BULBS FOR A VINERY.

This commences forcing at 50° in February. The whole of the tender plants of the Amaryllid group may be well managed in such a place, if plenty of light is given them when growing, and if the roots, when at rest, are seldom below 45°. An abridged list of these might consist of *Sprekelia formosissima*, *Brunsvigia falcata*, *grandiflora*, *Josephinae*, *multiflora*, &c.; *Zephyranthes verzeunda*; and *Hippeastrum Slaterianum*, *aulicum*, *breviflorum*, *reticulatum*, *vittatum*, *vittatum latifolium*, and numberless hybrids, all beautiful. The *Hippeastrum* group alone would make the front of such a house gay for several months, or when in bloom they could be removed to the greenhouse. The treatment of all, except *Aulicum*, is uniform; and even that will bloom very well on the resting system, though I think it does rather best when the leaves are always green. When growing and flowering, give plenty of water; when done flowering, water as long as the leaves keep green. Shift into larger pots at this period if necessary; as the leaves begin to decay withhold water, and expose the bulbs to the sun. When the leaves are decayed, keep the roots dry. As soon as the growth commences in spring, top-dress with rich compost, and water in proportion to growth and evaporation. Good fibry loam and a little very rotten cow-dung are the best compost for these.

The above replies are in answer to "C. C., Guildford," and we have to add that there is no such genus of plants as *Emiandra*; there is *Hemianandra*. R. FISH.

THE RIBBON STYLE OF ARRANGING FLOWERS.

AN esteemed correspondent from Penkridge writes thus:—"I wish you would give us, at an early date, in THE COTTAGE GARDENER, the arrangement and culture of a few good ribbons, with a list of suitable plants." I have great pleasure in complying with this request, and for several reasons; first, because I admire that style of arrangement more than any other; secondly, because that mode embraces variety and regularity; and thirdly, because I have seen it carried out to great perfection at two places, namely, Trentham and Enville Hall; at the former in straight lines, and at the latter in curved lines; both effective and charming beyond description. In describing these two places in a former volume of THE COTTAGE GARDENER, I gave this mode of arranging flowers the name of the Ribbon Style, and by that name it has been mentioned by other writers. I consider it very expressive, as, when the long rows of flowers are seen at a distance, a very slight stretch of imagination might think they were long and broad ribbons laid down on the soil. In choosing plants for this style, two or three considerations must be attended to, the most important of which is, that all the plants should continue in flower a long time, with the exception of the variegated plants, their variegation supplying the want of flowers; secondly, that the plants for each row should grow an equal height; and thirdly, that no plant be admitted into the ribbon that produces dull-coloured flowers, such as Mignonette and the Heliotrope. I saw, last summer, a ribbon, the beauty of which was completely destroyed by having the fourth row composed of Heliotropes.

In respect to the culture of this style of flower-gardening, there is not any difficulty in regard to soil. It should be light and moderately rich. I should describe a compost suitable to consist of three-fourths light loam and one-fourth decayed leaves, with a liberal addition of

any common sand—that from a river-side being the best. If the natural soil is heavy, then add more leaves and sand to lighten it. Above all, drain it well, for if the site is a wet one, and made rich, the plants will produce plenty of foliage, but very few flowers; and in a wet season some of the plants will die in large patches of over-grossness in growth. To prevent this, use a considerable portion of charcoal-dust well mixed with the soil. Charcoal-dust may be procured in almost any quantity at the steel works in Birmingham and Sheffield very cheap, as the manufacturers very often throw it away as rubbish. A person informed me, a few days ago, that he purchased it laid down at his garden-gate for 1s. 6d. the cart-load. For wet, heavy land it is a most excellent application, drying and opening the soil most effectually.

Another point of culture is to have the plants that are to produce flowers in a flowering state at the time of planting; that is, they should all be of equal age and size, very bushy, with the pots well filled with roots, and the plants well furnished with flower-buds. If the habit of flowering is induced before planting out, that habit will, in a great measure, be retained during the whole of the season. Late-struck Scarlet Geraniums and Verbenas, and, indeed, most other bedding-out plants, never flower freely at first. It will be September before they have got into a good flowering state; whereas, by a greater care early in the year, they may be induced to produce plenty of bloom as early as the latter weeks of June, or, at all events, in the first week in July; and thus nearly four months of blooms will be attained.

The very best plants for this style are such as have been struck from cuttings in July the preceding year, been potted off when rooted, and stopped severely to cause them to branch close down to the pot. Then, when frost appears, they should be placed in their winter quarters close to the glass, and just kept from frost, with plenty of air on all favourable occasions. No flower should be allowed to open on these plants; and then, in very early spring, say about the middle of March, these plants should be repotted into two sizes larger pots, stopped in again and again, and but a moderate supply of water, the object being to induce, if I may use such a term, a woodiness in them by the time they can be planted out.

As soon as that season arrives the ground should be forked over at least twice, to thoroughly mix the parts, and let the air penetrate into it. By this practice it will be in excellent working order. Choose a time when there has been two or three dry days, and in the meantime fully expose the plants day and night to harden them, so that they will bear the change without altering the colour of their leaves. If they are previously a little browned it is no disadvantage; on the contrary, if they are planted out without this hardening process, though they will look fresh, green, and beautiful for a day or two, the colour will soon change, and the plants will look wretched for a considerable time; therefore, all the amateur or gardener has to mind is, that his plants are fully exposed for at least a fortnight previous to planting out. Then, when all is ready, choose, if possible, a cloudy day, muster all hands, and set the plants in order on the borders, the row the furthest from the edge first, then the next, and so on down to the front row. When all are planted, gather up the pots and any rubbish there may be, and fork over with a small fork the whole of the border. This will put out all footmarks and leave the surface in a neat condition, not too fine. I think it a great mistake to rake the border instead of forking it over. The rake leaves it so smooth, that the first heavy shower of rain will make the surface like puddle; and then, when it becomes dry, it will first cake, and if dry weather continues will crack into numberless fissures, which

look bad enough and show the worst management. The fork will then be absolutely necessary, and the labour will be doubled. As the season advances, the Dutch hoe should be in constant use to keep the surface loose. Hoeing frequently has the effect of keeping the moisture in the ground, and, besides that, admits the air into it more freely, which is always an advantage to the plants. To prove this, ask any observing and intelligent farmer, or even his labourer, whether his turnips do not grow the faster the more they are hoed, and so will flowers of any kind. In addition to the benefits the plants derive from the frequent hoeings, the appearance of fresh soil is always pleasing to the eye, and generally supposed healthy to the human frame.

As the plants advance in growth, great attention must be paid to keep each row separate and distinct. The effect would be injured much if one sort was allowed to run into its neighbour. Of course, in such an elaborate style of flower growing, it is almost needless to say that no weeds should be allowed to appear amongst the plants.

I think the above directions as to the culture of this peculiar and pleasing style of flower culture are sufficient for any amateur. I do not pretend that I can instruct such men as Mr. Fleming or Mr. Aiton, the two eminent gardeners at Trentham and Enville Hall. I and my fellow-coadjutors write for such lovers of flowers as have not had the opportunity to practise by experiment or precept.

It now only remains to give a list of suitable plants for this purpose. I have selected such as I have seen grown in this style. To suit all parties, I have given four examples. The first is for a broad border in front of a wall or a shrubbery. The second will look well in a similar situation, or on a bed on each side of a wall in a kitchen-garden, or on a border next a fruit-tree wall, where it is near to the mansion. The third will answer admirably next to a winding walk with shrubs in the background, and the fourth and last may be adapted for almost any situation not shaded with trees.

RIBBON No. 1.

Front Row next the walk or turf.

1. Lobelia ramosoides, dwarf blue.
2. Golden Chain Geranium.
3. Flower of the Day ditto.
4. Calceolaria aurantia multiflora.
5. Dahlia Zelinda.
6. Fuchsia corallina.
7. Salvia patens.
8. Dahlias, three to four feet, various.
9. Hollyhocks, various.

This ribbon should be at least fourteen feet wide and a considerable length to look well.

RIBBON No. 2.

Front Row.

1. Lobelia ramosoides.
2. Golden Chain Geranium.
3. Verbena Purple King.
4. Flower of the Day Geranium.
5. Tom Thumb ditto.
6. Calceolaria amplexicaulis.
7. Antirrhinum Cretia, or any dark crimson.
8. Phlox Antagonist, white.
9. Delphinium Barlowii.

This ribbon will require a border eight feet wide.

RIBBON No. 3.

Front Row.

1. Lady Plymouth Geranium.
2. Calceolaria Kayii.
3. Geranium Trentham Rose.
4. Dahlia Zelinda.
5. Fuchsia Riceartonii.

For this a border five feet wide will be sufficient.

RIBBON No. 4.

Front Row.

1. Lobelia ramosoides.
2. Alyssum variegatum.
3. Tom Thumb Geranium.
4. Calceolaria amplexicaulis or angustifolia.
5. Dahlia Zelinda.

The last may be omitted if the border is only three feet wide; four feet will hold the whole.

T. APPLEBY.

CELERY AND ITS CULTURE.

THERE is, perhaps, no vegetable to which a larger breadth of ground is devoted than Celery. A good crop of Potatoes may be more profitable to the poor man, and during the summer months Peas occupy more space in the gardens of the opulent; but as the autumn advances Celery begins to show itself, and we are all alike friendly to its successful cultivation; and, as the time has now arrived when it ought to be planted in good quantity for winter use, a few general remarks on that subject may not be out of place, especially as the late dry weather renders it necessary for all who suffer from the want of moisture to take due care, and be prepared to plant out their crops when rain does set in; and Celery especially likes the ground prepared for it some time before planting.

I may here observe, that the old-fashioned mode of planting or growing Celery, by digging a deep trench and adding raw dung, to be dug up with the subsoil to be planted upon immediately, was certainly bad in principle as well as in practice, more especially in such soils as had not previously been trenched pretty deep, and that recently; for it must be borne in mind, that all soils require a certain amount of exposure to the open air before they are in a condition fit to receive the various crops they are to be sown or planted with, otherwise for a time the progress they make in growth is very slow. Hence the impropriety of planting Celery in a medium so much at variance with its well-being. In fact, the digging of deep trenches for Celery ought to be abandoned in all cases where there is not a deep and good soil to work upon; neither ought dung in a raw state to be used for this crop, for its action is expected to be immediate; consequently, the mixture in which its roots are to ramify ought to be at once good and suitable for them; and where necessity or the taste of the cultivator insists on Celery being planted at the bottom of a deep ditch, let that ditch be made at least ten inches or a foot deeper than is wanted, and that space filled up with the good surface soil, mixed with fine, well-decomposed dung, and on this plant your Celery in single rows about eight inches apart, or still wider if very large heads are wanted; but if moderate-sized heads will do, and a greater number be requisite, then plant a little closer. The result will be, in most cases, more satisfactory, for although very large Celery is certainly noble-looking, there is a rule in many private families of reducing it to a certain size, by which means very large Celery is no better than medium sized.

The time of planting Celery varies much with the latitude of the place, local advantages or disadvantages, as well as the season, more especially that part of it in prospect of which we have but little foreknowledge. However, generally, July may be set down as a good month for planting the main crop, and the earlier the better for late places, and *vice versa*; only, as some favoured situations have the disadvantage of suffering from drought in September, and, consequently, a cessation of growth takes place, there is, perhaps, as much certainty in obtaining good Celery in a cold and late situation as in a dry and early one, as it is a known fact that Lancashire and other moist counties produce

the best Celery, not even excepting the vale of the Thames, both above and below London, where very excellent Celery is certainly obtained; but it is as much the result of the liberal use of manure as anything inherent in the soil or situation. One thing is certain—that the mode of managing it about London cannot well be improved upon; and as the natural habitat of the plant is in wet ditches and similar marshy places, it follows that the plant cannot well be expected to thrive and do well in a dry medium; therefore, where circumstances render it necessary to plant it in such places, let it be liberally watered at the fitting time, and this watering must be repeated at all times when wanted; not regular daily dribbling, but a sound, good watering once or twice a week, and the hardened surface of the soil disturbed next day, if it had not previously been covered over with short dung or other substance that would not cake and harden at top; and as we often have very dry weather in August and September, it would be better, at the setting in of such dry periods, to cover the ground by the side of each plant over with leaf-mould, short dung, or a something that will allow the water to pass freely through, and, at the same time, arresting its evaporation, or the hardening of the ground underneath. Liquid-manure may be occasionally given.

Amongst the many names we have, there are, in reality, very few distinct varieties of Celery, good solid Red and White being, perhaps, the best and most suitable name that can be given; but there is certainly a little distinctive variety in the kinds originating in the old White Silver Celery, with its broad leaves and stalks, remarkable for their solidity, but short, and not many of them; but other kinds have their merits as well, and the amateur had better not depend on one kind alone, unless it be proved to be a good one. This, however, has been adverted to before; and it is only necessary here to say, that in planting out Celery for good, it is prudent to have all the plants in one row as nearly alike in size, &c., as possible, as there is a danger of choking up a small one where large ones have to be earthed up at each side of it. Another plantation may be made of smaller plants.

Where the ground consists of a very shallow soil, and a large quantity of Celery is wanted, and size not a particular object, it might be prudent to plant one or more broad beds, say six feet wide, and as long as desirable. In this the plants are to be placed in rows across, each plant occupying about a foot square, which might be done by allowing about sixteen inches between the rows, and nine inches from plant to plant. This description of plantation might be on the ground surface, and earth or other material might be brought to blanch them, if sufficient cannot be had around them. The advantage of this plan is, that a greater number of plants can be grown on the same spot of ground than by any other; and, though it would be wrong to say they are individually as large as those planted in single rows, yet they are often of a nice, useful size for ordinary purposes.

While on this head, I may observe, that where Celery trenches are prepared in the early part of summer, the tops of the ridges might be planted with a summer crop of some kind or other—Lettuces, Cauliflowers, or early Potatoes are all suitable—taking care, however, that they must not remain to the detriment of the Celery crop.

JOHN ROBSON.

TIDWORTH HOUSE.

THE SEAT OF T. ASHTON SMITH, ESQ.

If Tidworth House were more easily come-at-able, it would be one of the most frequently visited of all the show-places in England, if only for the sake of its conservatory at this period of the year. We visited it during the last week in June, and without any reservation we say that the conser-

vatory then presented the most gorgeous, yet most elegant, floral display that we ever looked upon.

The conservatory is 310 feet long, and forty feet wide, with a path about ten feet across, passing from end to end, beneath the centre of the lofty span-roof. A border 310 feet long, and fifteen feet wide, is thus on either hand as you enter the house, and these being entirely planted with yellow Calceolarias, relieved by pyramidal Fuchsias and Geraniums piercing through these truly "fields of the cloth of gold," rendered the vast surface of colour rich and effective beyond description.

Mr. Sanders, the head gardener, has paid especial attention to the raising of Calceolarias; and there were two circular stands of seedlings, of his own raising, far surpassing any we had ever seen at the largest and most successful cultivators of this flower near London. Such a display bears especial testimony to the floricultural skill of Mr. Sanders, for the present is the worst season for Calceolarias that has been known for some years. Yet all those at Tidworth were not only covered with a profusion of flowers, but their foliage was strikingly clean and vigorous.

The climbers upon the roof of the conservatory are in profusion and vigour; but they were eclipsed by a specimen of *Allamanda Schottii* in another house, which, we think, is the largest specimen of that fine evergreen that we ever noticed. In the same house were some plants of a new crimson *Hibiscus*, richer and finer than any which can be purchased. It ought to be placed in the hands of the trade.

The following is a list of some of the plants in the conservatory at Tidworth:—

PLANTS TRAINED UP THE PILLARS.

Acacia dealbata	that are nearly always in flower
— grandis	Hibbertia dentata
— oleifolia elegans	Hoya carnosa
— verticillata	Jasminum arbusculum
Amicia zygomeris	— grandiflorum
Begonia fuchsioides	Kennedyia Marryattæ
Bignonia grandiflora	Passiflora caerulea racemosa
Citrus aurantium mandarin	— edulis
Clematis aristata	— palmata
— (smilacifolia) glan-	Plumbago Capensis
— dulosa	Polygala latifolia
Cytisus racemosus fragrans	Rose, Eliza Sauvage
Fabiana violacea	—, Scarlet China
Fuchsia alba	Tropæolum Lobbianum
— corymbiflora	— Jarrattii
— Napoleon	— Triomphe de
— serratifolia	
And various other sorts	Gand

FUCHSIAS GROWN ON THE STAGES AND BEDS.

Empress Eugenie	Queen Victoria
Florence Nightingale	Sultan
Lady of the Lake	Water Nymph
Mrs. Story	Clio, together with a great
Omer Pacha	many of the leading sorts
Prince Albert	

A FEW OF THE CHIEF PELARGONIUMS.

Admirable	Lanra
Albonii	Lydia
Carlos	Magnificent
Commander-in-Chief	Majestic
Conqueror	Margarett (Beck's)
Constance	Medora
Delicatum	Minerva
— (Dobson's)	Mr. White (White's)
Dido	Petruchio
Electra	Pretty Poll (White's)
Enchantress	Purpurea
Fandango (White's)	Quadroon
Fidelia	Rhoda
Flying Dutchman	Rival Queen
Gem of the West	Rosa Mundi
Gipsy Queen	Sanspareil
Governor-General	Sunrise
Harriet	Wonderful
Juliet (Dobson's)	

And many other good old varieties.

The grand conservatory is connected with the house and with the stables by glazed passages, heatable by hot water, so that the whole may be visited, even in the severest weather, without leaving a climate like that of Madeira. The reason for this is said to have been that Mr. Smith preferred bringing Madeira to Mrs. Smith, rather than that Mrs. Smith should go to Madeira, when her physician recommended her wintering in that island.

Of the fruit forcing at Tidworth every one has heard; Grapes are required for dessert on every day of the year, and when we were there in June, Peaches, Nectarines, Green Gages, and Bigarreau Cherries, were profuse in the stoves, all of the finest quality, and the trees in the highest health. This was to be expected, for Mr. Sanders is widely known as a skilful fruit forcer; and we were glad to hear from him that in a second edition of his "Practical Treatise on the Culture of the Vine," he purposes to include directions for forcing other fruit.

The Grapes were looking especially healthy, and we were glad to find that Mr. Sanders thinks we are right in telling our correspondents that "shanking" arises from the roots of the Vine being kept too cold in proportion to the temperature in which the branches are vegetating. He takes great pains to keep the roots warm, and free from excessive wet; and as shanking never occurs in his Vineries, this may be accepted as an evidence that our opinion of the cause is correct.

In the kitchen-garden we observed that Mr. Sanders adopts the out-door-bed mode of forcing *Asparagus*. There are, we think, twelve equal-sized beds, six of which are alternately forced annually, and the others lie fallow, that is, are not cut from at all. Trenches three feet deep, and two feet wide, are dug between the beds to be forced, and these trenches are filled with fermenting dung. The beds have each a moveable span-roofed glazed frame put over them, and the time of cutting from the beds so forced, extends from the end of October until June. The plan we published last week of the *Asparagus* forcing-beds at Frogmore may be taken as examples of those at Tidworth, dung being put in the place of the Frogmore hot-water pipes.

Unfortunately, we had not time sufficient to see the whole of the grounds, which are tastefully laid out; but we had a passing glance, and noted one very beautiful vista which we longed to examine more closely. The house is placed in a hollow, and on one side, where the ground rises steeply, the trees are densely planted, and at the end of a long opening, among their lofty and varied forms, is seen a temple peculiarly effective in its position.

In visiting Tidworth from London, the best route is by the South Western Railway to Andover, from whence the house is distant nine miles. The gardens are thrown open at two o'clock, and we can testify from experience to the courtesy and information the visitor will obtain from Mr. Sanders.

EXHIBITING FRUIT-TREES IN POTS.

I BELIEVE that Pines, Grapes, Peaches, Nectarines, Plums, Cherries, Figs, Guavas, and other fruits, grown in pots, will shortly form one of the principal and most important features in the exhibitions of fruits; in fact, I think they ought to take the lead. See what the Chiswick Shows did for the Roses in pots; therefore, let us have no more such miserable apologies as representatives of the pot-culture of fruit in England, such as was exhibited in the Crystal Palace on Wednesday last, with the single exception of four pots of Grapes, exhibited by Mr. Forsyth, gardener to Baron Rothschild, which formed two very tempting arches, and richly deserved the prize awarded to them; while, on the other hand, the Grapes opposed to them reflected no credit on the sender.

The liberal prize offered for Apricots, Plums, and Cherries in pots was gained by my old friend Mr. Fleming, who, it is needless to say, stands at the head of his profession. He had four Plum-trees, without either Cherry or Apricot, showing the great liberality of the Crystal Palace Company, and more particularly as I observed several of the fruit tied on, that, I have no doubt, had fallen off on their journey. Still, if this is to be allowed, we shall soon have it carried to such excess by the unprincipled, that fair and honest showing will be out of the question.

Again, another very liberal prize was awarded to Mr. Lane for four Peach and Nectarine trees, one of which trees was, without exception, the best fruited I ever saw, and reflected credit on our friend, if it is possible to add to his already load of well-earned laurels.

Still, with the exception of one or two fruit that had started swelling the second time, the rest were as green and as hard as marbles. Now, this ought not to be allowed, at least, amongst an exhibition of what ought to be ripe fruit; for, if allowed, how easy it would be to exhibit them green in May, and carry them to every Exhibition of any consequence within reach up till October; for we have all seen this hawking system too frequently put in practice with such as *Ixoras*, *Azaleas*, &c., that were brought to the Horticultural Society's Show in May, hardly out, sent in June full blown, and again in July when fading away. Not that two such persevering lions practise this; still I think it is quite time for the patrons of Exhibitions to draw an unmistakeable line at the commencement of, if I am not much mistaken, a new era in fruit exhibiting, which, judging by the great interest ladies and gentlemen take in fruit Exhibitions, will not want supporters. It is amusing to observe the keen looks bestowed on the fruit. One gentleman in particular I remarked spell-bound before the splendid Peaches of Mr. Snow, to the great annoyance of his neighbours, who could not move him!

One word on the arrangement of fruit at the Palace, which is improved since the first, though far from perfection. Why not turn some of the spare spaces in the courts to advantage for this purpose? Take, for instance, the Pompeian Court. Where could be a more appropriate place for exhibiting Peaches, Cherries, &c., in pots? At least, I thought a certain friend of ours, with some score of Peaches, &c., in pots, along with a rather not bad-looking specimen of humanity, would have made an agreeable addition, though when I visited it on Wednesday it was certainly furnished in a manner that few would wish to have altered. The first sight was so fascinating and striking, that on entering I stood still on the threshold, I took my hat off, and, perhaps, for the moment wished that I was "monarch of all I surveyed," or, at least, thought a grand Turk or Sultan ought to have been pleased with the sight; for there were some sixty or seventy Sultanas enjoying themselves with all the easy Eastern style imaginable.

But what has all this to do with fruit-trees in pots? Much; for, in looking round, I saw the garden without a flower, and what had once been grass edges were scorched up; therefore, as I have said before, I thought this would be a very appropriate place for the fruit-trees, or such as Messrs. Lane and Francis's Roses, which, if plunged and the surface covered with moss, would have had a good effect.

Again, we have the garden of the Alhambra, which would also be a delightful place for fruit in pots, Roses, or *Fancy* and other *Geraniums*, *Heaths*, *Azaleas*, *Orchideae*, &c.

It may be said, that if an arrangement of this kind was carried out it would attract crowds to those places, and create confusion. I am of a different opinion, and in the belief that if the large specimen plants were arranged similar to the last, forming, as they did, a grand centre, and the minor exhibitions advantageously placed in various places in the building, thereby equalising and dispersing the visitors, without marring the good effect of the Crystal Palace itself, which the arrangement last week made a matter of necessity, it would be a step in the right direction.—D. FERGUSON, *Stowe, Buckingham.*

MONKSHOOD AND HORSERADISH.—The two roots are essentially different at every part, except in shape, and nothing but extreme ignorance could mistake them. They are both conical, but the Monkshood tapers away perceptibly, whilst the Horseradish is of the same thickness for many inches. The Monkshood is coffee-coloured, whilst the Horseradish is white with a yellow tinge. The Monkshood is merely earthy in odour, the Horseradish very pungent when scraped. The former, moreover, is succulent, and acquires a pinkish hue when scraped, whilst the latter is firm and dry, and does not alter its colour. The only resemblance in the two roots is in their crowns.—*Pharmaceutical Journal.*

THE AERATION OF VINERIES, AS PRACTISED AT BOWOOD, THE SEAT OF THE MARQUIS OF LANSDOWNE, F.H.S. By JOHN SPENCER, C.M.H.S., Gardener there.

THE imperfect manner in which many of our forcing-houses are ventilated is a constant cause of complaint amongst gardeners, and various plans have of late been recommended to remedy the evil, and to dispense with the usual mode of letting down the roof-sashes every time air is to be given. Having occasion during the autumn of 1847 to replant an early Vinery, I took the opportunity of arranging the aëration of it in accordance with the plan which accompanies this paper, and it has so far answered my expectations, that I now venture to submit it to the Council of the Horticultural Society, as a means whereby structures of this description may be efficiently aërated at all times and at a trifling expense.

By a reference to the plan it will be seen that the house in question is one of the common *lean-to* description, and was placed against a wall previously erected, which will

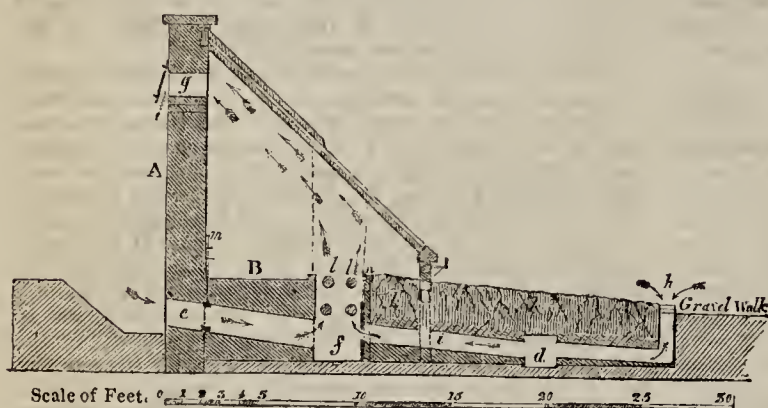
account for its unnecessary thickness. The chamber containing the heating apparatus runs the length of the house (see *f*), and into this chamber, and immediately below the flue,* are conducted the cold air drains, both from the back of the house and also from an air drain *d* running the length of the house underneath the Vine border. This central drain communicates with the external air by two drains *h h*, which are protected by a wire grating. Both sets of drains are furnished with sliding valves made of slate, working in a groove *m n*: to each valve is fixed an upright wooden bar furnished with holes, and by means of a pin the admission of air can be regulated as wished. In addition to these drains there are five ventilators in the back wall of the house *g*. These are made to slide in a frame, and are connected together by an iron rod, having at each end a weight attached, by moving which the whole of the ventilators are acted on simultaneously.

It will be seen by the above description that when the valves *m* and *n* are raised, and the back ventilators opened, a current of air is immediately admitted beneath the heating medium, and thus gets warmed before coming in contact with the foliage of the Vines. The general direction of the warmed air is naturally towards the back ventilators. During the winter months and in dull weather these valves require only to be slightly raised, keeping a continuous current through the house without lowering the temperature. During bright sunny days I open the whole of them, when of course a more rapid circulation of air takes place; but I do not find it necessary to open the top sashes until the weather becomes sufficiently warm that air may be admitted without any fear of its injuring the foliage by direct exposure to its influence, which often occurs to Vines in leaf when the sashes are lowered in cold though bright weather during winter and early spring. I may mention that had I had the entire building of the house in the first place, I should have preferred building the back wall sufficiently high to have left room for the back ventilators to have opened above the wall-plate and immediately under the coping, to remedy the evil, in the present case, of a direct current of cold air passing through. I have attached on the north side a frame, which prevents the air entering the house directly from the outside.

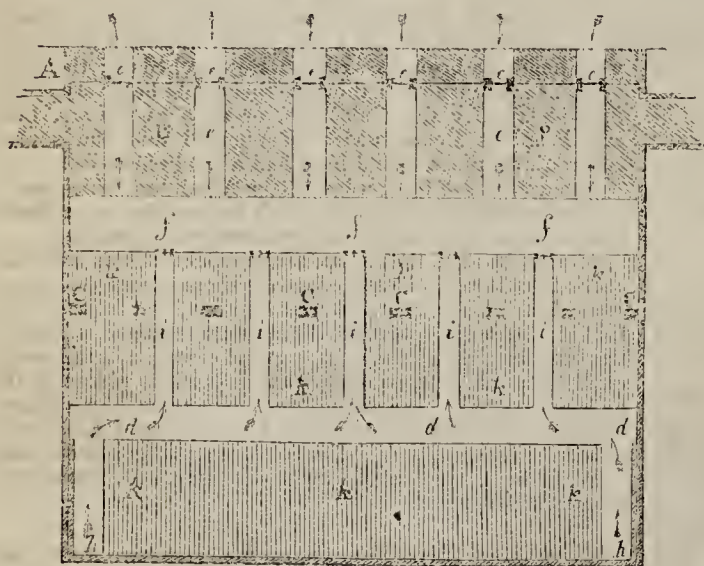
I need not advert to the beneficial effects a constant supply of warm air in rapid motion must have on the health and fertility of plants, particularly of Vines and other exotic fruits forced through our comparatively long and dull winters, as these facts are sufficiently established by our highest authorities, and the short though conclusive experience I have had with the mode I have described convinces me that the above principles might be carried out in nearly all our forcing-houses with the most decisive results. I am now taking steps to adopt nearly a similar plan in aërating a different description of house, and which may form the subject of another communication. —*Horticultural Society's Journal*.

* Lest it may appear strange to speak of a flue here, while I have shown hot-water pipes in the section, I may mention the flue is merely temporary, and will be replaced by hot water when the Vines are strong enough to force.

SECTION OF VINERY AT BOWOOD.



GROUND PLAN.



- A. Back wall of house.
- B. Floor of house.
- C. Supports to front plate.
- d. Large air-drain running parallel with the house.
- e. Air-drains entering from behind.
- f. Open chamber for hot-water pipes, or flue.
- g. Ventilator in back wall.

- h. Drains for admitting external air to d.
- i. Air drains communicating with d and opening into f.
- k. Border for Vines.
- l. Hot-water pipes.
- m. Sliding-valves for regulating admission of air through drain e.
- n. Valves for admitting air from main drain d.

SWAMMERDAMIA ANTENNARIA.

ANTENNARIA-LIKE SWAMMERDAMIA.



THIS belongs to the Natural Order of *Compositæ* (Asteraceæ), and to *Syngenesia Superflua* of the Linnæan System.

"This is a small compact evergreen bush, not at present more than three feet high. It has angular viscid shoots, and a foliage the colour of *Euonymus Japonicus*. The leaves are at the largest not more than an inch long, and generally smaller, obovate, apiculate, or perfectly blunt, veinless, concave, with a little mealiness on the under side when young. The flower-heads are small, white, and collected in little lateral corymbose panicles.

"It is found wild in Van Diemen's Land, on the sides of Mount Wellington, where it flowers in the months of January, February, and March. The late Professor De Candolle gave it its name, in allusion to the form of the pappus, which he thought resembled the antennæ of an insect—a very obscure peculiarity.

"A hardy evergreen small shrub, growing freely in any common garden-soil, and easily increased by cuttings in the usual way. Its clusters of small flowers open here in June, but add little to its beauty, which is confined to the foliage." —*Horticultural Society's Journal*.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.

THE last Exhibition of this Society for the present season took place on Wednesday last; and although the day was somewhat cold, and a little rain fell at intervals during the afternoon, there was a fair attendance of company. The Exhibition itself was a good one for July, more especially as respects fruit, which was very plentiful. *Orchids* were comparatively scarce, and, with one or two exceptions, scarcely reached mediocrity. Stove and greenhouse plants, however, were abundant, and many of the specimens were in beautiful condition. *Allamandas*, *Dipladenias*, and *Kalosanthes* were just at their best, and their large, bright yellow, rose, and scarlet blossoms may be classed among the more

striking features of the general display. *Heaths*, too, were better this time than we have seen them at any Show during the season; and *Fuchsias* and *Pelargoniums* lacked little of their Midsummer splendour. *Ferns*, in shady corners, formed, as it were, a kind of background to the picture, and the lively green of their beautiful fronds served to set off their more gaudy companions to much advantage. Of groups of plants remarkable for fine foliage there were several excellent collections, more especially one from Messrs. Veitch, which contained *Palms*, *Crotons*, the singularly brown blotched-leaved *Coleus Blumei*, *Dicffenbachia picta*, with great pale green leaves, spotted and splashed with white, *Marantas*, *Caladiums*, and other plants, with leaves handsomely formed, or beautifully marked with well-defined and striking colours. This is a class of plants which, together with *Ferns* and *Lycopods*, we are glad to say has of late years been gradually and deservedly progressing in public favour. Even the *Lycopods* are now scarcely less interesting than the *Ferns*, so various have become their forms, and so beautiful their foliage.

Among rare plants Messrs. Standish and Noble sent a fine specimen of *Clematis lanuginosa pallida*, with great round flowers, quite eight inches in diameter, pale blue in colour, and full and broad in the petal. This is a real acquisition, and it is said to be as hardy as *Clematis azurea grandiflora*. *Achimenes Vivid*, shown by Mr. Parsons, of Welwyn, is a charming plant, with a colour quite as brilliant as that of the old *A. coccinea*, but with more pink in it, and with flowers more than twice the size of those of that favourite kind. This is evidently a cross in the right direction. *Rondeletia anomala* we saw, but not in good condition. Messrs. E. G. Henderson and Co. had the beautiful white *Eucharis grandiflora*. Messrs. Veitch showed *Philesia burifolia*; their lilac-flowered *Leptodactylon*; their beautiful pink *Rhododendron Princess Royal*; *Desfontainia spinosa*, an evergreen shrub, said to be hardy, with long tubular blossoms, scarlet, and tipped with yellow; the *Rice Paper-plant*, *Wellingtonia*, *Lomatia*, and, last, but not least, their scarlet Larkspur (*Delphinium cardinale*). This last fully bears out all that has been said of it; its blossoms are produced in the greatest profusion in spikes quite eighteen inches in length, and bright orange scarlet in colour. In short, it is a noble addition to the genus to which it belongs, and in time will doubtless occupy a prominent place in every garden in the country.

From Mr. Glendinning, of the Chiswick Nursery, came *Cerasus ilicifolia*, young plants of the *Chusan Palm*, which has been proved to stand ordinary winters out of doors in this country, the bluish-lilac *Erica Spenceana*, Kæmpfer's Larch (*Abies Kæmpferi*), which promises much in the way of a timber tree, a Hardy Orange, and other plants introduced from China by Mr. Fortune. These form the bulk of the novelties exhibited on this occasion, with the exception of a new white-blossomed *Cattleya* from Messrs. Backhouse, of York. This will, no doubt, be much prized by Orchid growers.

In *Gloxinias* a great improvement has taken place of late, especially in regard to the upright-growing kinds, of which *Fifeana* is the type. Messrs. E. G. Henderson showed a beautiful collection of them. They were not named; but those marked X, white, with a pink ring round the inside of the throat; No. 3, white, with a blue belt; 172, a drooping-flowered kind, lilac, with a white tube; and 139, dark violet purple, were unquestionably the best.

The names of the different *PELARGONIUMS* which made up the various collections exhibited on this occasion we have often given in former reports, and, therefore, need not repeat them here; but the following list of some of the newer sorts in Mr. Turner's group may, perhaps, be acceptable to some of our readers. They were *Wonderful*, *Meteora*, *Fair Ellen*, *Phacton*, *Conqueror*, and *Una*. Mr. Gaines had some very singular-looking French kinds, which were quite out of the common way, and were much admired. The more striking of them were *Talma*, pink, with a dark top; *Roi des Pourpres*, dark crimson, spotted on all the petals; *Dr. Andry*, crimped round the edges of the petals like the pretty *Azalea crispiflora*; *G. Odier*, rosy-lilac, and spotted on all the petals; and *J. Odier*, crimson, with a large white centre. Though somewhat imperfect in shape, these were really fine-looking varieties. Messrs. Veitch

had an extremely well-shaped hybrid Pelargonium, named *Clarissa*, a dark-topped kind, with white under petals. This appeared to be a cross between a fancy and a Cape, and had the perpetual blooming habit of the last-named sort.

OF CALCEOLARIAS there were some pretty things in the shrubby way, both from Mr. Turner and Mr. Cole, of St. Alban's. The former had *Orange Perfection*, *Goldfinder*, *Dropmore*, *California*, *Lemonade*, and *King of Sardinia*. The last is a handsome reddish-brown kind. Mr. Cole sent *St. Alban's Gem*, a half-shrubby sort, with large flowers, brown, edged with yellow; *Cloth of Gold*, clear yellow; *Golden Cluster*, sulphur; *Snow-flake*, white, but badly shaped; *Queen of Yellows*, and *Cassandra*.

Among PETUNIAS there was little worthy of remark beyond the double white *Imperial*, which looks as if it would prove invaluable for cutting from.

VERBENA *Belle of the Village*, from Mr. Turner, is a pretty light kind, with a crimson eye, truss large, well-formed, and showy.

CUT ROSES were very abundant, and the day being cool, they retained their freshness well. The finest blooms came from Mr. Mitchell, of Pittdown, and among them the most striking were *General Jacqueminot*, a rich, deep crimson, with a broad, good petal, and well-shaped. *Géant des Batailles* was also there in admirable condition. Messrs. Standish and Noble had a seedling which was much admired for its deep, rich colour. It was named *Victor Trulliard*.

FRUIT, as we have said, was abundant. The best collection came from Mr. Tillyard, gardener to the Right Hon. the Speaker. He had *Royal George* Peaches; *Murray* and *Violette Hâtive* Nectarines; *Black Jamaica* and *Queen Pine* Apples; four Melons; *Black* and *White Muscadine* and *Mill Hill* and *Black Hamburgh* Grapes; *Trollop's Victoria*, *Goliath*, *White Biston* and *Sir Harry* Strawberries; *Brown Turkey* Figs; *Late Duke* Cherries, and Raspberries.

Mr. Fleming, also, had a collection, in which there were very fine *Black Hamburgh* Grapes; *Pine Apples*; *Coe's Golden Drop*, and *Reine Claude de Bavay* Plums; *Noblesse* and *Magdalen* Peaches; *Etruge* Nectarines; *Black Tartarian* and *May Duke* Cherries; *Brown Ischia* Figs; and *Trentham Hybrid* and *Cashmere* Melons. In Mr. Constantine's collection we noted some *Stanwick* Nectarines, small, however, and not very well coloured.

PINE APPLES.—Magnificent specimens of *Queens* came from Messrs. Jones, Barnes, and Fleming. Some of Mr. Barnes' fruit were unexceptionable both as regards form, colour, and ripeness. We, however, could not learn their weights. Mr. Fleming and Mr. Dods had each a good *Providence*. Altogether there were about as many Pines as there were at the June Exhibition.

GRAPES were abundant, and the white kinds were in better condition than they were at the last Show. The best basket of 12lbs. of *Black Hamburgh* came from Mr. Henderson, gardener to Sir George Beaumont, Bart. Of collections of three sorts, Mr. Glendinning had most beautiful bunches of *Grizzly* and *White Frontignans* and *Black Hamburgh*. Bunches of *Black Prince*, beautifully coloured and very fine, came from Messrs. Boyd, May, Turnbull, and Hill. Of *Muscadines*, Mr. Tillyard had good bunches; and Mr. Forsyth, *Dutch Sweetwater*. The best *Muscats* came from Mr. Clarke. They appeared to be quite ripe, and were well coloured. Messrs. Turnbull, Dods, and Taylor, also, had fine bunches of this variety. Mr. Forsyth had some well-fruited *Vines in pots*. A seedling *Black Grape* came from Mr. Snow, gardener to Earl De Grey. It had quite the flavour of a Muscat; the berries were oval, and the bunches large. Its seeds were rather large, and the skin a little thick; but the last might be the result of its not being quite ripe. Mr. Mitchell, of Brighton, also had a seedling *Grape*, large and showy in the bunch, which resembled that of the *White Nise*; but the berries were different in shape. This we did not taste. Finally, a new *White Grape* came from Mr. Carpenter, of Birmingham; but this did not appear to us to be so good as Busby's *Golden Hamburgh*, with which it comes into competition, and, therefore, little need be said about it.

PEACHES and NECTARINES were, upon the whole, good. The best came from Messrs. Clarke, Richards, Henderson, Turnbull, Frost, Davies, Fleming, and Booth. The sorts

were chiefly *Royal George* and *Noblesse* Peaches, and *Etruge* and *Violette Hâtive* Nectarines.

PLUMS.—*Green Gage* and *Washington* were furnished by Mr. Munro and Mr. Fleming, and the former had a dish of *Moorpark* Apricots.

CHERRIES were very good. By far the best were *Black Circassians*, from Mr. Taylor, of Brentford. These were quite twice the size of ordinary fruit of this kind. In short, they were the admiration of all who saw them. Mr. Snow sent some well-grown white kinds.

STRAWBERRIES were not plentiful. Mr. Tillyard showed *Goliath*, *British Queen*, *Biston Pine*, and *Sir Harry*.

MELONS were not very good. The *Beechwood* obtained the first prize among green-fleshed sorts.

NEW PLANTS.

RHODODENDRON *FALCONERI* (*Dr. Falconer's Rhododendron*).

It flowered this season for the first time in Europe, at Messrs. Standish and Noble's, Bagshot, and with Mr. Fairie, of Mosely Hall, near Liverpool. Its flowers are greenish-white. It is a native of Tonglo Mountain, in the Eastern or Sikkim-Himalaya, being found there at an elevation of 10,000 feet.—*Botanical Magazine*, t. 4924.

RHODODENDRON *HOOKEI* (*Dr. Hooker's Rhododendron*).

"From the garden of Mr. Fairie, of Mosely Hall, near Liverpool, where it flowered in April of the present year. It is one of the many new Rhododendrons which rewarded Mr. Booth's researches in Bootan, and which have been so successfully reared from seed by the veteran botanist, Nuttall, at Nuttgrove, Rainhill, near Prescott." Its flowers are rich crimson, and render it a brilliant species. "It forms entire thickets upon the Oola Mountain of Bootan, on the north slopes of the Lablung Pass, accompanied by *Pinus excelsa*; elevation above the sea level 8,000 to 9,000 feet, the frost and snow at that time (about December 20th) being very severe and continuous."—*Ibid.* t. 4926.

COLLINSIA *VERNA* (*Spring Collinsia*).

Quite a new annual, the *Collinsia verna* of Don being the same as *C. grandiflora*. Its flowers are coloured white and blue. Nuttall found it in West Pennsylvania in 1812, but it was first raised from seed by him in this country in 1855. "The winter or autumnal young plants endure the severe winters of Kentucky perfectly well, and there begin to flower about the 1st of April." "Our plants flowered in a cool frame early in April, and continued blooming for a long time. Treated as a hardy annual, it will prove, when sufficiently abundant, a charming bedding-out species."—*Ibid.* t. 4927.

RHODODENDRON *CAMPANULATUM* var. *WALLICHII* (*Bell-flowered Rhododendron*; *Dr. Wallich's variety*).

This native of the interior of the Sikkim-Himalaya was considered by Dr. Hooker to be a species, and named by him *R. Wallichianum*. It proves to be only a variety of *R. campanulatum*. It bloomed at Kew in May, 1856. Its flowers are pale lilac, its leaves have no rusty down upon them, and the leaf-stalks are strongly tinged with red).—*Ibid.* t. 4928.

QUERIES AND ANSWERS.

GARDENING.

SOIL FOR AND CULTURE OF POMPONE CHRYSANTHEMUMS.

"Will you oblige me by saying what soil is most suitable for Pompones Chrysanthemums?—M. L. T."

[Any good garden-soil, such as will grow Brocoli and Cauliflower, or the top of an Onion bed, will do well for Pompones Chrysanthemums; or, if grown in pots, good yellow or brown loam, with a sixth part of rotten leaf-mould, or very old, rotten dung, rather dry and free from worms. Unless

they are intended for exhibition, it is waste of time to have them in pots before the flower-buds are seen. Now is a very good time to stop the larger plants of them for the last time, and to put in cuttings for making small plants, such cuttings to be planted out also as soon as they are rooted, and then to be stopped.]

ESCALLONIA MACRANTHA OUT OF DOORS.— CLIMBERS FOR WALLS IN DORSET.

"I observe your recommendation of *Escallonia macrantha* as an out-door climber. I have a very healthy plant of the kind, which I have cherished in-doors, under the idea that it was not hardy enough to brave day and night exposure in the open air. I shall feel much obliged if you will inform me how I am to proceed with my plant, so as to turn it to the account you recommend. I do not know how it is propagated, or the right season or soil for so doing.

"Also, as I have many bare walls that cry out for the graceful drapery of climbers, will you be good enough to recommend one or two hardy and swift-growing sorts, mentioning time and mode of planting or sowing?

"There is a very beautiful climber of the *Laburnum* habit, which bears a fine, drooping, lilac blossom, something like a Sweet Pea, the name of, and treatment for, which I should be very glad to know.—M. A. N."

[The *Escallonia macrantha* should have some covering in hard frost for the first few years north of London. In Dorset and Devonshire it should be as hardy as a Peach—at least, after awhile. It is not a climber, but is to be trained like a Peach-tree. Plant it out now, and put in cuttings of the half-ripe wood under a hand-glass, just as you would pipings of a Carnation, and in October take up your rooted cuttings, and keep them in a cool frame all the winter; plant them out next May, and they will make a better show than the old plant you have been pampering all this time.

The noble climber you speak of is called *Wistaria Sinensis*, and sometimes *Glycine Sinensis*. Get one or two of it by all means; also, *Clematis montana*, to make white wreaths in May; the common *Blue Passion-Flower* and *Clematis Sieboldii*, to be planted together, and to be cut down to near the ground the first three years, about the end of April; and half the people in the country will take the *Sieboldii* to be a new Passion-Flower. Plant two or three *Cobæas* every year till these fill up the places for them.]

LINUM GRANDIFLORUM RUBRUM.

I said that I did not believe one word of the story about a packet of seeds of *Linum grandiflorum rubrum*, which one of our correspondents said he had from Mr. Rendle, and every seed of which came up. I was so satisfied that such a thing was an utter impossibility, that I overlooked the fact that the writer had sent his card with that communication, and so I expressed myself too bluntly; but he has taken it in good part, notwithstanding the great provocation I had unwittingly given him, as is shown by this letter:—

"I take in THE COTTAGE GARDENER monthly, and so have only just seen your article in the number for June 17th. In that article you make some very strong remarks on a correspondent ('H. M. E.' in the number for May 27th), who asserted that he had no difficulty in raising *Linum grandiflorum*, and wrote anonymously. I wrote that note, and now complain of your unfairness, as though I did not sign my name. I did inclose my card and address; and this either yourself or the Editor should have known before you wrote of me in the offensive manner you thought fit; and, perhaps, rightly so, if you did not know the circumstances. But, with any one else, I should have been very angry; but I give you full credit for speaking only as you thought it your duty to speak, and I have learnt too much from you to keep angry with you long.

"Now for the *Linum*. I had it, with other seeds, from Rendle, '*Linum grandiflorum rubrum*,' &c. The seedlings came up abundantly, as I said; but when I wrote, it had not flowered. Now it has; and, alas! that I should have

to say so, it is the common *Blue Flax*! So my boasting is in vain. I never before was disappointed in seed from Messrs. Rendle, or I should have waited till it had flowered before I wrote; but I wrote in full confidence that these packets were truly named, and I have received from them a very full and handsome apology; so that if you think fit to take notice of this communication—which you are perfectly welcome to do—I hope you will do it in such a way as not to throw unnecessary blame on Messrs. Rendle, and, at the same time, to free me from the charge of deliberate falsehood you have brought against me. I prefer writing to you personally, as it seemed a private matter between you and me. I wish I could send you something for your experimental garden, to which I wish all success. Have you the old-fashioned Peppermint Geranium? Its velvety leaves are pretty, and it covers a large space, but its flowers are nothing. It would be worth while to try and cross it, so as to retain the foliage and get a better flower. I can send you any amount of cuttings of it.—H. M. E."

[Now, after making suitable apology for this very awkward blunder, it seems to me that it was overruled for good that I should forget all about the "card and address," on purpose that the world should be made a little wiser if not the better for it. Mr. Rendle could no more help the mistake about the seeds than I could. The packets, as I said before, were made up on the Continent, and some one forgot to put the doctored seeds in that packet. The world need not now be told that a thousand tons of doctored seeds are used every year to mix with genuine seeds, so as to make the bulk for the penny. No one in these days would think of giving one shilling for two or three small seeds; but when a new plant is in great demand, like this *Linum*, there are not even three seeds of it for every one who wants to buy it; therefore, as no one will buy three seeds, or would grumble at being duped, it was to stop this grumbling that they thought on the expedient of making large packets of seeds and "little in them;" and it soon turned out that a man went home in a good humour with a large packet of twenty doctored seeds and three genuine seeds in it, who would have grumbled all the way if he had given the same money for the real seeds only. Mr. Walton brought down a packet of *Linum grandiflorum* to me from the London house, the very first house in the trade, and not knowing any one of the firm, I understood the thing in the light of a challenge. They were quite sure I could get up the seeds, and that would be a black ball to throw at all the grumblers, and I knew that they must have sent one of the best packets to me, to make the hit more sure. I took an old way of my own to make sure which seeds were good and which were no good, and I found that twelve per cent. was the return the Frenchman allowed us on this seed, a good percentage too, considering all things. Knowing, therefore, that the best packets of twenty-five seeds would only produce three plants of *Linum grandiflorum* in 1856, I could not believe any one who stated that in a packet from Mr. Rendle every seed vegetated. If such a statement had been published without a dissenting observation, the consequence would be just as I said before—the world would say that Mr. Rendle employed a puffer for his *Linum* seed in THE COTTAGE GARDENER.

Every one who was not equally successful would complain of his seedsman; and, worst of all, some second-class gardeners would lose their situations, because they were not as successful as the person who got every seed in the packet to grow. All round the circle we have a lesson in this way of pushing matters. I blundered about the card and address; the Frenchman did the same, in putting live flax seeds into the packet; and our Reverend correspondent cried "chick" before the eggs were hatched.—D. BEATON.]

GROWING PHALLENOPSIS GRANDIFLORA.

"I now want to ask you which is the best way of growing *Phalænopsis grandiflora* so as to make a fine plant; some recommend a pot, and others baskets.—NEPENTHES."

[*Phalænopsis grandiflora* thrives best on a log of cork placed among moss in a basket, and just kept moist continually; the log should stand just above the moss.]

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO. X.

WATER—ROCKWORK—BUILDINGS—STATUARY—RUSTIC SEATS—FLOWER-BASKETS, &c.

EXCEPT in pleasure-grounds of large extent, pieces of water are much more appropriate when treated in a simple, geometrical manner, than by giving them an irregular outline for the purpose of attempting picturesque effect. It may be assumed, as a principle, that when the whole surface can be seen at once, a decided geometric form should be chosen. But when pieces of water, having such formal outlines, are placed in grounds laid out in an irregular style, a modification of the latter must be perceptible immediately around them, or the combined effect will be incongruous. If to such geometric outlines stone curbs and other architectural accessories are added, the arrangement of the walks, shrubberies, and flower-beds, if any, contiguous to them, must be decidedly formal, both in their outline and disposition. But in that case, such portions of the grounds should be treated as detached scenes, rather than as parts of the general scenery.

A small surface of water, with an irregular outline, can rarely be a pleasing object in itself, and its limited extent precludes the possibility of rendering it so by planting, which is an indispensable requisite in giving to such forms the character to which they aspire—picturesqueness. It will, I think, be conceded, that small pieces of water of this description, most frequently met with, have one common defect,—they are so surrounded by shrubs that, in place of giving cheerfulness to the scenery, they become gloomy, stagnant pools—receptacles of all kinds of abomination, both vegetable and animal. Now, if, instead of straining after the phantom picturesque, a formal outline is chosen, we in a measure get rid of the necessity for surrounding it with shrubs, and, at the same time, enjoy all the advantages desirable from the introduction of one of the most pleasing adjuncts to scenery, whether natural or artificial. But a basin or pool of water, with an architectural boundary, should never be introduced into irregular garden scenery, as it sometimes is, without some modification of the irregularity immediately about it.

In extensive grounds, having large surfaces of water either within, or forming a portion of their boundary, a decidedly opposite mode of treatment can, of course, be most appropriately adopted; there the picturesque style can be allowed its full development.

Unless a *rockwork* is to be made on a large scale, as a leading feature, as at Elvaston, Chatsworth, and a few other places, it should be wholly confined to some retired nook, easily accessible, yet in no way mingling with the general scenery. A piece of rockwork, except in situations peculiarly adapted for its display, cannot be harmonized with the other elements of which the scenery is composed. Nevertheless, it can always be rendered an interesting item in a garden; and wherever facilities exist for constructing it, it should, by all means, be carried into effect. A piece of well-constructed rockwork is the exception to the rule; and very many of the tasteless compositions of this kind are the result of abortive attempts to realise the garden *will-o'-the-wisp*—a natural scene. In ninety-nine cases out of every hundred, the principal object of a rockery is simply to cultivate certain plants upon, which can be more appropriately grown there than in any other situation; and yet a simply convenient arrangement of the materials composing it does not content; but the imitation of natural strata and other—except under very special circumstances—impossibilities must be attempted, the result of which can be readily imagined. In merely raising a heap of rock, stones, and other suitable materials upon and amongst which certain plants are to be grown, such attempts at imitating nature are surely ridiculous. In constructing such, let the object for which it is intended be the guiding principle, and the results, under proper management, cannot be far wrong; but by no means introduce such a feature in the general scenery of the grounds. A mass of rockwork which, from its magnitude and position, may possibly, and which is in-

tended to, pass for a natural scene, or the representation of one, is quite another affair. He who is competent to direct the formation of such a piece of work needs no instructions that I can hope to give.

Amongst what may be justly termed the *embellishments of gardens* are ornamental buildings, statuary and vases, grottos, rustic seats, flower-baskets, &c.; and it is not possible to imagine a garden, however limited its extent, in which some of them may not be appropriately introduced. In extensive grounds all will find places for admission; and, if judiciously placed, they will add very much to the general effect. A continued repetition of mere shrubbery, lawn, and walk, however well designed and kept in order, becomes wearisome; but if some appropriate accessories are occasionally thrown in, they counteract the otherwise dull monotony, forming, as it were, resting-places for the eye, as well as objects to excite curiosity and interest in the mind. A large garden without some such appendages resembles a furnished apartment, but destitute of ornament. The apartment may be of admirable proportions, the furniture ample and in the best taste, but if ornament be entirely wanting, there will be a lack of elegance, which its presence could alone supply. So a garden without ornament presents a comparatively bald and unfinished aspect, which the introduction of a few appropriate and well-placed accessories, as ornaments, would obviate.

The choice of ornament, and where and when to introduce it, are matters which demand more than a hasty consideration. In fact, it must be confessed that the art of employing ornament judiciously is a most difficult one, and one that is by no means generally understood. Ornament is never so appropriate as when wedded to utility. If we investigate the subject fully, we shall, I think, arrive at the conclusion, that utility was the parent of ornament, although the relationship may not always be apparent at first sight. Indeed, we may often recognise the offspring where there is nothing to remind us of the existence of any such parentage. Thus statuary is among the higher, if not in itself the highest class of ornament; yet we do not attach any idea of utility to it, at least, not in the every-day acceptance of the word, though we trust it has, or should have, a noble office—that of educating the eye in beauty of form, as well as expanding the mind by suggesting noble ideas; and in proportion as a piece of sculpture fails in producing these results in minds capable of appreciating them, so does it fail in its true mission.

In employing statuary, vases, and buildings of classic design, care must be taken that they occupy appropriate situations, and that everything about them be in harmony. If placed amid rude and uncultivated woods, they can never be looked upon with satisfaction by a refined taste; for in such situations they are incongruities, not beauties. A statue of Venus half-hidden by brambles; a copy of the Barbesini vase, filled with weeds and rubbish, by the side of a wild wood walk; or a Doric temple in a wilderness approached by a common cart-road, which is only passable by a pedestrian in summer, are most assuredly out of place; and, on the other hand, rustic seats and grottos are equally misplaced if they occupy prominent situations in highly-kept grounds. Each has its peculiar fitness for particular situations, and, if employed otherwise, become objectionable rather than pleasing objects. Statuary and vases should only be employed where they can be surrounded by accessories decidedly artificial and in the highest possible keeping; while the ruder garden ornaments, as root-houses, rustic seats, and flower-baskets, will find their appropriate situations in the less highly artificial parts of the grounds. A garden will gain much by the judicious use of ornaments, and, on the other hand, it may lose much by a tasteless application of it. Recollect that ornament is only ornament when properly applied.—GEORGE LOVELL, *Landscape Gardener, Bagshot.*

(To be continued.)

STILTON CHEESE.

THE invention of this cheese is about a century old. Marshall, in his "Rural Economy of the Midland Counties," published in 1790, says, "Mrs. Paulet, of Wymondham, in

the Melton quarter of Leicestershire, the first maker of Stilton Cheese, is still living. Mrs. Paulet, being a relation, or acquaintance, of the well-known Cooper Thornhill, who formerly kept the Bell at Stilton, in Huntingdonshire, furnished his house with this cheese, which, being of a singularly fine quality, was coveted by his customers, among whom were the gentry who posted along the great North Road. These customers, by the aid of Mrs. Paulet, were supplied with the cheese at half-a-crown *per* pound. In what county it was made was not publicly known, and it consequently was called 'Stilton cheese,' from the place where it was sold. At length, however, the place of produce was discovered, and the art of producing it learned by other dairy-women in the neighbourhood, and it is now made in almost every village in that quarter of Leicestershire."

The last of the original makers of this cheese is only recently dead, for we read in the *Gentleman's Magazine* of the present month, "May 14, aged 96, died Mrs. Pick, of Witcote Lodge, Leicestershire. In early life deceased and her parents were the original makers of the far-famed 'Stilton cheese,' who were under an engagement to sell all the cheese they could make to Mr. C. Thornhill, innkeeper of Stilton." We suppose that Mrs. Pick was a daughter of Mrs. Paulet.

TO CORRESPONDENTS.

CHERRY-TREE UNFRUITFUL (J. F.).—Your case offers an opportunity of reminding correspondents that a "second Daniel" could not solve their difficulties without certain *data*. It may be drought, it may be want of nutriment, it may be several other things which render your tree barren. Cherries on uncongenial soils sometimes produce imperfect blossoms; plenty of stamens, but imperfect pistils.

STRAWBERRIES (A Constant Reader).—What do you mean by training them "hop-fashion?" You surely cannot suppose that the runners can be trained round stakes!

ASPARAGUS BEDS (One of your Subscribers).—We can equal any Asparagus grown in France. Trench the ground three feet deep, mixing stable-manure abundantly throughout; plant in April; give a little salt monthly, and the strongest liquid-manure weekly in a trench between the rows; never have the crowns above one inch below the surface; and give a covering of the richest and most decayed stable-manure every winter. No quantity of manure can be too much if given in a liquid state; and if given thus beautifully the finest possible heads of Asparagus will be produced.

BOOK ON GARDENING (E. Appleton).—There is none such as you require. We shall publish three "Manuals" shortly, which will give what you require.

CHINESE PRIMULAS (An Old Subscriber).—Messrs. Henderson, Wellington Road, St. John's Wood, London, can give you the information you ask for.

INDEX (J. George).—We always give notice that it will appear at a certain time. We are sorry that you did not understand that the index in No. 366 belonged to the previous volume. It could not belong to the current one.

PLEA FOR THE SLUG (An Old Subscriber).—The slug, as you say, is a garden scavenger, but he is a plant murderer also, and the horticultural law condemns him to death; nor can we plead for his pardon.

ARROWROOT BISCUITS.—An Old Subscriber would be obliged by a good recipe for these.

HARTSHILL FLOWER SHOW.—The report of this should have been sent to the Editors. When such communications are sent to the departmental writers they have, at their own expense, to send them to the Editors, and no one acts justly, or courteously, who writes to a departmental writer, contrary to the request we print week after week that such a course may not be adopted. However, we are told that a notice in our columns will aid this Society, and as its chief object is to encourage the gardening of cottagers, and to award them liberal prizes, we readily announce that its recent Exhibition was most successful. The following notice has been sent to us, and we hope prosperity may long continue to attend the Association:—"This Society was recently formed in connexion with the flourishing 'Working-men's Association,' established in January last, to afford the working classes of this very pleasant suburb of the town of Stoke the means of improvement and rational recreation during their leisure hours. It has originated in a feeling on the part of the committee that when the long winter evenings have passed away, and out-door pursuits resume their attractions, it was desirable to adopt some plan which should foster a taste amongst the members for the cultivation of flowers, fruit, and vegetables, and should stimulate to industry, neatness, and skill in the management of their gardens. And how could this object be better accomplished than by the establishment of periodical Flower Shows, with the supplementary prizes for cottagers' gardens? Or where, in the immediate vicinity of the Potteries, could a prettier or more suitable spot than Hartshill be found for the exhibition of floral beauty? The project met with the approbation of the members, and with liberal encouragement from the neighbouring gentry to whom it was communicated; and on Thursday last the first Exhibition was held, under auspices which augur well for the Society's successful continuance. The Show was held in the Hartshill Schools, whose two large rooms were so well filled with specimens of horticultural skill that the

visitors experienced, at times, some difficulty in passing through. The collection of stove and greenhouse plants was varied, extensive, and excellent; the vegetables were not so numerous, in consequence, no doubt, of the lateness of the season; and to the same cause may be attributed the lack of competition for any but a very few of the prizes for fruit offered by the Society. Nor was the cottagers' show of fruit and vegetables so large as a more propitious season would have enabled them to supply; they sent, however, some very commendable specimens of plants and flowers. In the course of the afternoon some six or seven hundred visited the Exhibition. The cottagers' prizes were awarded to Henry Turner, William Leason, William Clarke, John Buxton, Joseph Clowes, George Maskery, William Hulme, and William Jackson. The prize for the best bouquet of wild flowers was awarded to a little girl named Harriet Hemmings. The Judges were Mr. Upton, gardener to Lady Cotton Sheppard, Crakemarsch; Mr. Allport, gardener to H. Akroyd, Esq., Doddington Park; and Mr. Hill, gardener at Keele Hall. Mr. Nunn's quadrille band was in attendance during the Exhibition; nor must we omit to mention that C. M. Campbell, Esq., and S. T. Garrett, Esq., the Society's treasurer and chairman of committee, were present throughout the afternoon, taking an active part in the management of the Exhibition."

THE POULTRY CHRONICLE.

POULTRY SHOWS.

AGRICULTURAL SOCIETY (ROYAL). At Chelmsford, July 14th to 19th. Sec. J. Hudson, Esq., 12, Hanover Square, London. Entries closed June 1st.

ANERLEY. July 29th, 30th, 31st, and August 1st. Sec., C. Lawson, Esq., Anerley. Entries close July 9th.

BRIDLINGTON. August 27th. Sec. Mr. T. Cape, Bridlington.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. Nov. 26th and 27th. Sec., E. Trinder, Esq., Cirencester. Entries close Nov. 1st.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

WHITBY. July 16th and 17th. Sec. S. Burn, Esq., 1, East Terrace, Whitby. Entries close June 30th.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

ON THE DUTIES OF JUDGES AT POULTRY EXHIBITIONS.

It will certainly be pretty generally admitted that the duties of a poultry Judge at our various Shows are, in the present day, those of very considerable and continually-increasing difficulty. Amateurs are now by no means regardless of the vital importance of properly "matching" the inmates of a pen intended for exhibition. It is comparatively a rare occurrence any are "disqualified" for this—until latterly—general complaint, and the competition, therefore, instead of resting, as heretofore, among three or four principal pens, that "stood out," as it were, entirely from their companions, the struggle is now equally well sustained by most of the competitors, until even a slight distinction, perhaps only of simple "condition," settles the arbitrators' mind entirely as to the superiority, or otherwise, of the different aspirants to distinction. The toils of this office are, of course, proportionally increased; and, to add very materially to the personal labour of properly fulfilling it, most committees, from a somewhat straitened amount of funds, are now compelled to limit their expenditure to their means; and, therefore, instead of engaging several Judges, one or two are, in most instances, considered quite as many as are either needful, or their balance-sheet will allow.

With this slight prelude, we must go on to the exposure of a few causes that very greatly add to the troubles and difficulties of judging a Poultry Show, more particularly as they might quite easily be obviated altogether. The first is the almost constant abridgment of the time allotted to the purposes of the adjudications, from the fowls not being penned at the time pre-agreed upon; whilst committees, very naturally, cannot endure the thought of delaying, even

triflingly, the period of opening to the public, and thus offending visitors, subscribers, or exhibitors generally, to the loss, perchance, also, of a considerable amount of entrance-money.

We have known gentlemen, appointed to officiate as Judges, thus kept waiting in uncertainty, and strolling about a strange locality, for five hours out of the six previously allotted them for their thankless duty; the committee actually instilling on them at the last moment (when really admitted), that they must indeed "open to time," or they should offend everybody, urging them to "get on" as speedily as possible. We have even known policemen placed to guard the Judges from annoyance or interference after the public had been really allowed to enter, the adjudicators having only commenced their arbitration one short half hour previously! We ask, Can such laxity in the fulfilment of the arrangements end satisfactorily to either the Judges, the exhibitors, or the committee themselves? Most certainly the probabilities tend vastly against so favourable an issue.

In other instances we have known policemen placed at the ends of the avenues between the pens of poultry, "to keep back the public until the Judges had completed their decisions." On such occasions the most angry recriminations have ensued between those thus placed in authority and even showily-attired females, who were grievously inconvenienced from the downright pressure to which they were subjected from the restriction complained of; whereas, had "all been ready," ample accommodation would have been afforded for all, and everything would have passed over with perfect pleasantry. In one instance, particularly, we remember two ladies of title (who had been both patronesses, and also liberal pecuniary supporters), who instantly left an Exhibition thus circumstanced, and could not be again prevailed upon to sanction so "ill-managed an affair." During such times of neighbouring recrimination, no doubt can be entertained that the position of the Judges was one to be anything but coveted or desirable, and the tendency could only be to force onwards to some ill-judged decision or other; for in such cases undisturbed quietude should be invariably maintained, and, indeed, is also imperative if justifiable awards are really to be hoped for as the final result of the present arbitration.

There is still one other pressure upon poultry Judges, that has arisen (of late) to a most unwarrantable degree of extra toil, and that, too, at a time when their public duties ought most certainly to have drawn to a close. We allude to the practice of exhibitors requesting the earliest private "information as to their individual success, to be forwarded to them by post, immediately the decisions are complete, that they (the competitors) may be relieved from farther suspense." In a single case or so the trouble would certainly be "nothing at all" deserving of either complaint or censure; indeed, too trifling to require any especial remark. But what is the absolute fact? At a recent Poultry Exhibition no less than *thirty-seven* such applications were made by as many different competitors, entailing an amount of labour few could estimate if correctly rendered, and the information would be quite useless were it not so. To form some idea of the aggregate additional trouble over and above the actual adjudicating of the prizes, let any exhibitor, for himself, only take in hand a catalogue of a Poultry Exhibition, and after selecting, *at random*, thirty-seven names, go through the whole catalogue thirty-seven different times in the instance of each individual pen, comparing notes with his "award-book" as to all and every pen the exhibitor may happen to show, reducing the whole to writing; afterwards directing as many separate envelopes, and taking, all the time, especial care no mistaken entries may slip into any of these written statements; this alone, we are perfectly assured such party will not, till then, accredit the compulsory trouble it entails, or the time it occupies. The explanation is very easily rendered obvious. A few parties requiring this information would not add any considerable additional trouble; but the aggregate labour (quite unknown to each or any one, except the party of whom it is expected and required), is unwarrantable, and occupies time that otherwise might be serviceable to the Committee, were these numerous queries not propounded, or the impatience of the exhibitor restrained until the printed prize-list could be forwarded by the next day's mail. We feel assured, when the matter is calmly recon-

sidered, there are very few who would persist in a practice that involves unnecessary labour on parties who, perchance, may have already travelled one or even two hundred miles, within the previous twenty-four hours, to officiate; besides carefully and sedulously endeavouring to fulfil the duties of his (or their) onerous office by well-considered adjudications. The practice complained of commenced with a very few individuals, gradually progressing until it has attained the gigantic growth we have adduced, and that, too, without involving any guarantee that eventually it may not still farther increase beyond the limits of the present hour. It is a time-worn axiom of those already too heavily burdened, "that it is the last feather placed on the camel's back which breaks it;" and we ourselves are well informed, that in some instances, the angry remonstrances which have ensued from not at once "complying with a small favour" have completely disunited the exhibitor and arbitrator, and urged the latter to the natural conclusion, that such duties ought not to be expected of him, nor would he undertake office on future occasions, whereby they might be considered as entailed.

POULTRY EXHIBITION AT PRESCOT, LANCASHIRE.—JULY 8TH.

THIS is the Third Annual Meeting that has taken place at this locality, increasing, year by year, in importance, popularity, and in pecuniary returns.

The committee of gentlemen who have instituted the Prescott Poultry Show bear pretty indisputable evidence of how much can be done by personal efforts, if combined to secure the same end, and proper exertions are also made that are prompt and well-directed. The first meeting of this Society was comparatively a trivial and unimportant one; but few fowls then competed, and even those of trifling character. The one just closed, on the contrary, has drawn together the most perfect specimens in the United Kingdom. The competition was, therefore, very severe, and (from the entries) knowing it would be so, the committee of management erected a tent that was two hundred and fifteen feet long, and more than forty feet in width. The best possible light was, therefore, everywhere attainable; and all pens, from end to end of the Exhibition, shared this advantage equally. There was one drawback upon the general proceedings for which no amount of previous care could possibly provide.

On Monday evening, July 7th, the weather became very dull and squally, the rain towards nightfall fell in torrents, and occasional peals of thunder rendered the probabilities of fine weather the day following somewhat remote. During the night, and at daybreak of the morning of the Exhibition, the storm increased to a perfect hurricane, many large trees in the neighbourhood were torn up by the roots, whilst at Liverpool, and the mouth of the Mersey, a considerable number of outward-bound vessels were driven back by the force of the storm, and stranded on the coast. It is worthy of remark, that this really *immense* tent stood well the severe trial it had to encounter until about eleven in the morning, when a portion of the covering gave way, prior to which time not a single spot of rain had fallen through anywhere, and as, luckily, the weather cleared immediately, no ill consequences ensued. The banners used this year were similar to those of last season, the church bells rang almost incessantly very merry peals, all the shops were closed, and business suspended, whilst an excellent band drew together a goodly muster of the inhabitants. From *midday* the day was as fine as possible, and the numbers of carriages continuously arriving, well filled with gaily-dressed gentry, added much to the pecuniary interests of the publicans, and likewise the excitement of the town.

The popularity of this Show is as well deserved as it is well supported, and should its growth continue in a ratio proportion, it will soon become one of the most extensive of any of our local poultry meetings. The great promptitude of the committee, also, in returning the fowls to their owners after the close of the Exhibition is worthy of especial mention, and greatly calculated to insure the continuance of public favour. We will, as customary, offer a few brief comments on the fowls themselves.

The *Spanish* class was magnificent, and certainly was

never excelled. Here, again, Mr. Davies, of Hounslow, and Captain Hornby tested the comparative merits of their highly-reputed birds, as it was presumed the great distance travelled and prolonged confinement had told adversely to the interests of the Knowsley stock, when they so recently competed at Windsor. It was quite obvious to all amateurs the "condition" of both competitors was improved greatly since that time; no fowls could possibly be shown in better trim, and all efforts that could be made were made to insure "the Cup" offered as a premium for this particular variety. As at Windsor, it added yet another laurel to the many Mr. Davies has of late achieved. Their fowls ran closely, and there is no doubt that first-rate condition will always tell wonderfully as to future decisions, as the lapse on either side would weigh fearfully to their disadvantage, where merits are so equally balanced. Having spoken of "the champions" of this class, we will merely add, *every* remaining pen was exceedingly good; indeed, so much so, as to determine the Judge, Mr. Edward Hewitt, of Spark Brook, Birmingham, in "highly commending the whole class as unusually good." The *Grey Dorkings* were many of them much the worse for their annual moult; indeed, at this season of the year, all adults show to disadvantage, and several of the best birds were some pounds below their accustomed weight. The class was, nevertheless, most especially good. The *Cochins* were also good. In the *Hamburghs* our notice was particularly directed to the inattention displayed by many amateurs in the selection—to their birds' combs "*falling over*," destroying the hopes of many otherwise very excellent pens. This should be carefully avoided in *all four varieties*. The *Polish* and *Game* classes were very excellent. In the *Chickens all varieties competed together*, and never was there a more severe struggle for the mastery. The policy of this arrangement is open to difference of opinion; but we hear some improvement will be adopted at future meetings. The Cup *Bantams* were, undoubtedly, as perfect a trio as any we ever yet saw, and attracted much attention. They were perfection, and their plumage was in the highest condition possible.

Many of the *Turkeys* and *Ducks* were very good; but the *Geese*, as a whole, were sadly out of feather.

The *Pigeons* were well selected, and they added materially to the interest of the Exhibition.

"The Ten-Guinea Cup," for the best six pens that were shown by any one exhibitor, was awarded to Wm. Wright, Esq., of West Bank, Widnes, near Warrington, after a very spirited competition with *ten* opponents, and adds much to the credit of this gentleman's poultry-yard. This year the committee erected entirely new pens, that when *unused* fold so very closely as to take up very little room; and we hear it is their intention "to let them occasionally to similar societies," at so low an amount, as to very materially lessen the general expenses. We have but little doubt they will be very generally approved and adopted.

SPANISH.—Cup, Mr. H. D. Davies, Spring Grove House, Hounslow. Second, Captain Hornby, Knowsley. Commended.—Mr. James Dixon, North Park, Horton, Bradford. (The whole class highly commended, as being unusually good.)

DORKINGS (Coloured).—Cup, Captain Hornby, Knowsley. Second, Mr. William Wright, West Bank, Widnes. Highly Commended.—Mr. Edward Lister, Cassia Lodge, near Northwich. Gilbert Greenall, Esq., Walton Hall. Mr. John Copple, Eccleston. Commended.—Rev. G. Hustler, Appleton, near Tadcaster. (A very superior class.)

COCHIN-CHINA (Cinnamon or Buff).—Cup, Mr. G. A. Geldend, Ackrigg End, Kendal. Second, Mr. Thos. Burnett, Hutton, Preston. Commended.—Mr. William Copple, Eccleston.

COCHIN-CHINA (Partridge-coloured).—First, Mr. Wm. Newsome, Heckmondwike, Yorkshire. Second, Mr. P. Cartwright, Oswestry.

COCHIN-CHINA (White).—First, Mr. Robert Chase, Moseley Road, Birmingham. Second, Mr. Richard Teabay, Fulwood, Preston. Commended.—Mr. Wm. Dawson, Hopton, Mirfield.

BRAHMA POOTRA.—First, Mr. Richard Teabay, Fulwood, Preston. Second, Mr. Thomas Burnett, Hutton, Preston.

GOLDEN-SPANGLED HAMBURGH.—First, Mr. James Dixon, North Park, Horton, Bradford. Second, Mrs. Charles E. Coleridge, Eton, Windsor. Highly Commended.—Mr. Henry Worrall, Knotty Ash House.

GOLDEN-PENCILLED HAMBURGH.—First, Mr. Josiah B. Chune, Green Bank, Coalbrookdale, Salop. Second, Mr. W. C. Worrall, Rice House, Knotty Ash.

SILVER-SPANGLED HAMBURGH.—Cup, Mr. Josiah B. Chune, Green Bank, Coalbrookdale, Salop. Second, Mr. J. Dixon, North Park, Horton, Bradford.

SILVER-PENCILLED HAMBURGH.—Cup, Mr. Wm. Wright, West Bank, Widnes. Second, Mr. T. H. Roper, Eton, Windsor. Highly Commended.—Mr. J. Dixon, North Park, Horton, Bradford.

POLISH (Black with White Crests).—Cup, Mr. G. H. Perkins, Moseley, near Birmingham. Second, Mr. Thos. Battye, Holmbridge, near Huddersfield. Commended.—Mr. J. F. Greenall, Grappenhall Hall.

POLISH (Golden).—First and Second, Mr. James F. Greenall, Grappenhall Hall. Highly Commended.—Mrs. Charles E. Coleridge, Eton, Windsor.

POLISH (Silver).—First, Mrs. Charles E. Coleridge, Eton, Windsor. Second, Mr. Edward W. Hazlewood, Bridgenorth. (A good class.)

POLISH (any Variety).—First, Mrs. Charles E. Coleridge, Eton, Windsor. Second, Mr. G. W. Boothby, Louth, Lincolnshire. (The class superior.)

GAME (Piles and Duckwing).—First, Captain Hornby, Knowsley. Second, Mr. David Spruce, jun., Daresbury.

GAME (Reds).—Cup, Captain Hornby, Knowsley. Second, Mr. Henry Worrall, Knotty Ash House. Highly Commended.—Mr. Thomas West, Eccleston Place. Mr. Wm. Seddon, Prescott. Mr. J. F. Ollard, Prescott. Commended.—Mr. William Pybus, jun., Prescott. Mrs. Sharp, 47, Mill Lane, Bradford.

GAME (any Variety).—First, Mr. James Dixon, North Park, Horton, Bradford. Second, Mr. Thomas Burnett, Hutton, Preston.

ANY BREED.—First, Mr. Wm. Dawson, Hopton, Mirfield. (Sultan's Fowls.) Second, Mrs. H. Sharpe, 47, Mill Lane, Bradford. Highly Commended.—Mr. John Middlehurst, Sutton, St. Helens.

CHICKENS.—Cup, Mr. Wm. Banks, jun., Weston, Runcorn. Second, Captain Hornby, Knowsley. Third, Mr. G. Fell, Warrington. Fourth, Mr. P. Cartwright, Oswestry. Highly Commended.—Mr. Thos. Stretch, Marsh Lane, Bootle. Rev. G. Hustler, Appleton, Tadcaster. Mr. John Robinson, Vale House, Garstang. Mr. Wm. Lyon, Knowsley. Mrs. H. Sharp, 47, Mill Lane, Bradford. Mr. W. L. Hayman, Church-street, Liverpool. Gilbert Greenall, Esq., Walton Hall. Mrs. D. Henderson, Top o'th' Lee, Shuttleworth, Bury. Mr. Wm. Wright, West Bank, Widnes. Mr. Robert Chase, Moseley Road, Birmingham. Commended.—Mr. Thos. Burnett, Hutton, Preston. Miss Willis, Hurst House. (The best competition in chickens that has yet taken place.)

BANTAMS (Gold-laced).—Cup, Mr. Wm. Wright, West Bank, Widnes. (Second withheld.)

BANTAMS (Silver-laced).—First, Mr. William Wright, West Bank, Widnes. Second, Mr. James Dixon, North Park, Horton, Bradford.

BANTAMS (any Variety).—First, Mr. R. B. Durning, jun., Rainford. Second, Mr. Henry Worrall, Knotty Ash House.

DUCKS (Aylesbury).—First, Mr. John K. Fowler, Prebendal Farm, Aylesbury. Second, Captain Hornby, Knowsley. Highly Commended.—Mr. Thomas Burnett, Hutton, Preston. Commended.—Mr. John Robinson, Vale House, Garstang.

DUCKS (Rouen).—Cup, Mr. J. B. Neilson, Doe Park, Woolton. Second, Mr. Henry Worrall, Knotty Ash House. (A meritorious class.)

DUCKS (any Variety).—First, Mrs. Sarah Rigby, Plum Tree Farm, near Prescott. Second, Mr. William Oldham, Ravenhead, St. Helens.

TURKEYS.—First, Captain Hornby, Knowsley. Second, Mr. John B. Neilson, Doe Park, Woolton.

GEESSE.—First, Mr. John K. Fowler, Prebendal Farm, Aylesbury. Second, Mr. John B. Neilson, Doe Park, Woolton. Highly Commended.—Captain Hornby, Knowsley.

THE TEN-GUINEA CUP.—Won by Wm. Wright, Esq., of West Bank, Widnes, Warrington.

PIGEONS.

CARRIERS.—First, Mr. William Scott, Market Place, Prescott. Second.—No competition.

TUMBLERS (of any Variety).—First, Mr. Henry Foster, Eccleston Lane Ends. (Beards.) Second, Mr. Henry Foster, Eccleston Lane Ends. (Rough Legs.) Highly Commended.—Mr. Henry Foster, Eccleston Lane Ends. (Balds.) Commended.—Mr. William Jones, Eccleston Lane Ends. (Black Beards.) Mr. William Sephton, Victoria Place, Prescott. (Balds.) Mr. Joshua Rigby, Toll Bars, Prescott. (Balds.) Extra Prize.—Mr. William Rigby, Hillock-street, Prescott. Mr. John Lyon, Vicarage Place, Prescott.

OWLS.—First, Mr. William Sephton. Second, Mr. William Scott.

FANTAILS.—Second, Mr. H. W. Ansdell, Huyton. (First withheld.)

POUTERS OR CROPPERS.—First, Mr. Henry Beldon, Eccleshill Moor, near Bradford.

ANY OTHER VARIETY.—Second, Mr. Peter Pendleton, Yew Tree Place, Prescott. (First withheld.)

POULTRY EXHIBITION AT STOCKPORT.

This proved, comparatively, a trifling affair, from its being simply "the first attempt" to institute two such meetings at Stockport annually, namely, in the midst of summer, and in the midst of winter also. It was connected with an Agricultural Meeting, and certainly formed by far the most attractive feature of the whole proceedings; for although the display of competing horses, cattle, sheep, and pigs had each many admirers, the Butcher Market, appropriated exclu-

sively to the poultry, was literally thronged to excess. Long before the time of opening to public view, the bells of the churches rang loud peals of enticement to the sight-seers both far and near. In the balcony of the market-house were placed, by the kind permission of the Colonel, the full band of the 25th Regiment, and at intervals their performances were awarded by rounds of applause, as the densely-filled square resounded to the martial airs of "Rule Britannia," "The Death of Nelson," or (by way of variation) "Vilkins and his Dinah," or "The Rat-catcher's Daughter." A local peculiarity had here a singular effect: most of the working-classes of the immensely large cotton-mills, that abound all through the district, wear wooden elogs, and whenever any strain was especially popular they betokened their approval by stamping in time, until it absolutely amounted to a perfect *furor*, of which no one can even imagine the effect by any description, however elaborate; suffice it to say, at times, on flag-stones, the noise is almost deafening.

But to the Show itself. No sooner had the Judges, Joseph Hindson, Esq., of Liverpool, and Edward Hewitt, Esq., of Spark Brook, Birmingham, awarded the premiums, than the impatient multitude thronged in continuous streams, until check-takers were compelled to give way, and the place was speedily thronged to excess. The general expression of feeling was most favourable to the Exhibition; all seemed well satisfied, and mostly praised the competing pens in no measured terms of approval.

For ourselves we shall speak generally; the committee "tried their best" to deserve commendation, and, as we have just stated, obtained it; but we doubt not that both they and the exhibitors will profit from the experience of this meeting in regard to future arrangements. The building is particularly well-fitted for the general purposes of a Poultry Show, being lighted from the roof, very lofty, and convenient; whilst, no doubt, a similarity of pens will be obtained for future meetings of the Society, and prevent the objectionable and discordant appearances that must ever result from parties being permitted to show their different lots "in anything they pleased, or use the pens" furnished by the committee. In reference to the unique portions of the Show, a *Peacock* "tied by the leg" proved most attractive. He seemed himself, however, rather astonished at his compulsory restraint, and anything but "at home;" but, on the other hand, a pair of *Australian Ground Parakeets*, a variety in which the "pencilling" is the most perfect we have yet seen in any bird whatever, looked quite docile, and especially pleased with their position. They are scarcely so large as a common canary, were capitably feathered, and shown in a handsome cage, usually adopted for these birds.

BLACK SPANISH.—First, Mr. John Potter, Fallow Field, near Manchester. Second, Mr. David Bolus, Reddish. Commended.—Mr. Robert Cheatham, Stockport.

GREY DORKINGS.—First, Mr. John Potter, Fallow Field, near Manchester. Second, Mr. John Parsons, Ryecroft, near Ashton. Commended.—Mr. Cottrell, Long Lane, near Cheadle.

COCHINS.—First, Mr. David Bolus, Reddish. Second, no competition.

GAME FOWLS.—No fowls entered.

GOLDEN-PENCILLED HAMBURGS.—First, Mr. John Titlow, Hurst, near Ashton. Commended.—Mr. John Godwin, Norbury.

SILVER-PENCILLED HAMBURGS.—First, Mr. Nathan Marler, Long Lane, Denton.

GOLDEN-SPANGLED HAMBURGS.—First, Mr. Nathan Marler, Long Lane, Denton. Commended.—Mr. John Simpson, Long Sight, Manchester.

SILVER-SPANGLED HAMBURGS.—First, Mr. Nathan Marler, Long Lane, Denton. Commended.—Mr. Chas. Beswick, Church Gate.

POLANDS.—First, Mr. John Lorton, Hayley Bridge. Commended.—Mr. James Whitehead, Hayley Bridge.

BANTAMS.—First, Mr. John Titlow, Hurst, near Ashton. (White ones.) Commended.—Mr. Edward Harrison, Long Lane, Denton. (Black ones.)

ANY VARIETY.—First, Mr. Edward Harrison, Long Lane, Denton. (Redcaps.) Second, no competition.

TURKEYS.—No entries.

GRESE.—Mr. Thos. Hill, Reddish, near Stockport.

GOSLINGS OF 1856.—First, Mr. James Barlow, Offerton Hall. Second, Mr. Hugh Mottram, Burage. Commended.—Mr. Thomas Robinson, Black Brook, Levensulme.

DUCKS.—No competition.

DUCKLINGS.—First, Mr. James Stocks, Lord Street, Stockport. Second, Mr. Rd. Harper, Reddish.

A certificate of merit was also given, no prizes being offered, for a pen of *CARRIER PIGEONS*, belonging to Mr. Thos. Oldham, 6, Water Street, Oldham; and a certificate, also, to a pair of living *AUSTRALIAN GROUND PARAKEETS*. They were forwarded to the Show without any owner's name.

OUR LETTER BOX.

ZINC DRINKING-PANS.—**BRISTOL POULTRY SHOW.**—G. F. T. asks "if drinking out of zinc vessels is injurious to fowls; also, did the Bristol Poultry Show meet its expenses? If so, will there be one next summer?"

[Most decidedly our own impression is in favour of *glazed* earthenware, or *enamelled* iron saucers, for the use of fowls as their drinking vessels; the latter we have now used for many years (in strictly confined premises), and very successfully. The advantages of them as to cleanliness are great, as the enamel does not allow the *adhesion* of any filthy matters whatever, and they, therefore, are as easily washed, and then are as perfectly clean as either glass or crockery-ware of any kind. Enamelled spittoons serve the purposes well, as they cannot possibly be overturned from the fowls treading upon the edges of them. The zinc vessels we formerly used became foul from the water standing long in them, particularly in warm weather, and then required a considerable amount of hard scrubbing to restore perfect cleanliness; otherwise they did not seem to injure the fowls, but did not, by any means, *appear* so clean as those just named. We are informed, it is anticipated there will be a *first-rate* Poultry Show at Clifton next year, the Zoological Gardens being peculiarly well adapted for the purposes of such an exhibition.]

BAISTON AND CLIFTON POULTRY SHOW.—Mr. John Chatterton, 25, Islington, Birmingham, says we omitted to state that his "*Buff Cochins* were commended" at this Show.

GAME COCK AT PARIS (Game Cock).—The Brown-red Game Cock at the Paris Exhibition belonged to Mrs. Maria Taylor, Shensbam Court, Gloucester.

SILVER AND GOLD PHEASANTS (J. T. C.).—They sit twenty-four days.

LONDON MARKETS.—JULY 14TH.

COVENT GARDEN.

Supply good, and a fair average trade doing, the late showers having proved very timely and beneficial. We have now an excellent assortment of *Fruit* and *Vegetables*. From the Continent, nothing to report are but a few *Apricots*, and they are not first-rate. Quotations remain nearly the same as last week.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz.....	6d. to 9d.
„ dessert	12s. „ 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen	1s. „ 3s.	Potatoes, per cwt.	3s. to 6s.
Peaches, per doz.	10s. „ 20s.	„ Frame, per lb. 6d. „ 6d.	
Nectarines, do.	10s. „ 20s.	„ New, per lb. ..	2d. „ 4d.
Pine-apples, per lb.	6s. „ 10s.	Onions, Y'ng, per b'ch. 4d. „ 6d.	
Hothouse Grapes, per lb. 3s. „ 6s.		„ Old, per bushel 5s. „ 7s.	
Strawberries, per lb. 3d. „ 1s.		Turnips, per bunch. ..	9d. „ 1s.
Foreign Melons, each 2s. „ 5s.		Leeks, per bunch	2d. „ 3d.
Wall Cherries, per lb. 1s. to 1s. 6d.		Garlic, per lb.	6d. „ 8d.
Cherries, per lb.	6d. „ 1s.	Horseradish, per bundle	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. „ 10s.	Shallots, per lb.	6d. „ 1s.
Seville Oranges, do.	6s. „ 12s.	Lettuce, Cos, each	6d. „ 8c.
Lemons 6s. „ 12s.		„ Cabbage per doz. 2d. „ 3d.	
Almonds, per lb.	2s. „ —s.	Endive, per score ..	1s. 6d. „ 2s.
Nuts, Filberts, per 100lbs.	50s. „ 60s.	Celery, per bunch.	9d. to 1s. 6d.
„ Cohs, ditto ..	80s. „ 100s.	Radishes, Turnip, per dozen bunches	— to 6d.
„ Barcelona, per bushel.....	20s. „ 22s.	Water Cressess, ditto..	6d. „ 9d.
Nuts, Brazil, ditto.	12s. „ 14s.	Small Salad, per punnet	2d. „ 3d.
Walnuts, per 1000 ..	9s. „ 12s.	Artichokes, per lb.	— „ 2d.
Chestnuts, per bushel 15s. „ 24s.		Asparagus, per bdl.	3s. „ 5s.

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.	Basil, per bunch	4d. to 6d.
„ Red, per doz.	2s. to 4s.	Marjoram, per bunch 4d. „ 6d.	
Cauliflowers, each.	9d. „ 1s.	Fennel, per bunch ..	2d. „ 3d.
Broccoli, per bdl.	3d. „ 6d.	Savory, per bunch ..	2d. „ 3d.
Savoys 1s. „ 2s.		Thyme, per bunch ..	2d. „ 3d.
Greens, per doz. bunch. 4s. „ 6s.		Parsley, per bunch ..	2d. „ 3d.
Spinach, per sieve ..	— „ 4s.	Mint, per bunch	2d. „ 4d.
French Peas, per bshl. 6s. „ 10s.		Green Mint	6d. „ 8d.
French Beans, per 100 1s. „ 2s.			
Carrots, per bunch ..	9d. „ 1s.		

POULTRY.

The occupation of the agricultural world, now busy hay-making is not without its effect on the market. The supplies have been smaller during the week.

Large Fowls 6s. 6d. to 7s. 0d. each.	Quails	1s. 9d. to 2s. 0d. each.
Smaller do 4s. 6d. to 5s. 6d. „	Leverets ..	3s. 6d. to 5s. 6d. „
Chickens .. 2s. 9d. to 4s. 0d. „	Pigeons	1s. to 1s. 2d. „
Goslings 6s. to 6s. 6d. „	Rabbits	1s. 5d. to 1s. 6d. „
Ducklings 3s. 0d. to 4s. 0d. „	Wild Ditto ..	10d. to 1s. 0d. „
Guinea Fowls 9d. to 9s. 0d. „	Dottrell ..	0s. 0d. to 0s. 0d. „
Plover's Eggs, in bulk.		0s. to 0s. 0d.

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 22—28, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
22	Tu	Aretia Caja.	30.156—30.114	78—52	W.	—	11 a 4	1 a 8	10 18	20	6 8	204
23	W	Aretia Salicis.	30.020—29.765	83—59	S.W.	.68	13 -	0	10 32	21	6 10	205
24	Th	Aretia chrysorrhæa.	29.777—29.600	71—52	S.W.	.14	14	vii	10 46	22	6 11	206
25	F	ST. JAMES. DS. CAMB. B. 1797.	29.716—29.672	73—49	S.W.	1.22	16	57	11 6	23	6 12	207
26	S	Lithosia rubricollis.	29.777—29.720	63—50	S.	—	17	55	11 31	24	6 12	208
27	SUN	10 SUNDAY AFTER TRINITY.	29.787—29.842	75—49	S.W.	.45	18	54	morn.	25	6 12	209
28	M	Lithosia irrorea.	29.876—29.870	72—50	S.W.	.06	20	52	0 6	26	6 11	210

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 73.7°, and 52.3°, respectively. The greatest heat, 92°, occurred on the 25th, in 1844; and the lowest cold, 40°, on the 23rd, in 1843. During the period 113 days were fine, and on 88 rain fell.

A SPECIAL meeting of the BRITISH POMOLOGICAL SOCIETY was held at the rooms, 20, Bedford Street, Covent Garden, on Thursday, the 17th instant, for comparing and determining the merits of Strawberries, Cherries, or any other fruits which might be in season. The chair was occupied by Mr. Turner.

Mr. Kitley, of Bath, furnished specimens of his new Strawberry, *Carolina superba*, which was sent out in the autumn of 1854. It is a cross between the *Old Pine*, or *Carolina*, and the *British Queen*. The fruit is large, and regularly heart-shaped, very seldom, if ever, cockscumbed, and frequently measuring five inches in circumference; the colour is a pale red, or deep flesh, and extends uniformly over the whole of the fruit, so that, unlike *British Queen*, it may be said to colour well; the seeds are small and not deeply indented, which gives the surface a rather smooth appearance. The flesh is a clear white, very firm in texture, like the *Old Pine*, and with that fine aroma and vinous flavour which are found in both its parents. But the *Old Pine* is a bad bearer, and the *British Queen* is not sufficiently hardy, two qualities which *Carolina superba* is found to possess. A plant which was taken from the open ground and placed in a pot was exhibited by Mr. Kitley, and it was literally covered with fruit. This variety was highly commended by the meeting; and there is no doubt that it is a very first-rate and valuable accession to our gardens.

Mr. Underhill, of Birmingham, exhibited very fine specimens of his *Sir Harry*. It is, indeed, a noble-looking Strawberry, and partakes more of the furrowed cockscumb shape than of the heart-shaped. Its colour is dark red, and when highly ripened, of a very deep blood-red, approaching to black. It is large, and has a glossy surface, which has the appearance of being rather coarse from the deep indentations of the seeds. Unfortunately, the merits of this fine fruit could not be properly discussed, as Mr. Underhill's gardener had packed them in moss, the flavour of which had been communicated to the fruit, and thereby spoiled its natural flavour. Mr. Underhill, however, intends producing another supply at the meeting to be held in August. *Sir Harry* is the produce of *British Queen* and Trollope's *Victoria*. It ripens at the same time as *Keen's Seedling*, and bears abundantly.

Mr. Snow, gardener to Earl de Grey, at Wrest Park, Bedfordshire, produced specimens of *Myatt's Admiral Dandas* Strawberry. This is of a pale reddish-orange

colour, of very large size, and inclined to the irregular cockscumb shape; but in quality it was considered to be inferior in flavour, and too acid to be agreeable. Mr. Snow also exhibited two seedling late Strawberries of his own raising, which presented singular discrepancies in quality, and it was therefore considered desirable that Mr. Snow should again produce them at the August meeting.

Mr. Knevet, of Isleworth, sent a basket of a new seedling Strawberry of very large size, one specimen measuring six inches and a quarter in circumference. It is of the furrowed heart shape, dark red colour, and the seeds, which are small, almost level with the surface. The flesh is of a deep red colour, and considerably solid for the size of the fruit. It was considered a very good Strawberry for its size, with a flavour which renders it well worthy of cultivation, and very superior to all the other large Strawberries which have hitherto been introduced.

Mr. Snow also presented a bunch of a new seedling Black Grape, raised from the *Black Hambro'* impregnated by the *White Muscat*. The bunch not being perfect we cannot describe it. The berries are of good size, varying in shape from round, like the *Black Hambro'*, to oval, like the *Muscat*. The skin is black, and, though not thick, is tough—a property which enables the fruit to hang and bear carriage well. The flesh is melting and remarkably rich in flavour, fully charged with the Muscat aroma, but with a peculiar rich vinous smack and delightful fragrance which we have never met with in any other Grape. The number of seeds vary from one to two, and in some cases are wanting. Mr. Snow having expressed a wish that the Society should name his new Grape, Mr. Hogg proposed that it should be called SNOW'S MUSCAT HAMBRO', which being approved of, it will henceforth be known under that name. This we have always considered one of the greatest desiderata—to obtain a Grape with the Muscat flavour which would ripen as early, and with the same degree of heat, as the *Black Hambro'*. Such a horticultural triumph has at last been obtained from these very parents—the *Hambro'* crossed with the *Muscat*; and hence the expressiveness of the name. Mr. Snow also exhibited a basket of remarkably fine specimens of Elton Cherries from a wall, which were greatly admired, and which reflected great credit on Mr. Snow's superior cultivation.

Mr. Rivers, of Sawbridgeworth, presented specimens of *Muscat St. Laurent*, a White Grape of the *Chasselas* or *Muscadine* family, which possesses a distinct trace of the Muscat in its flavour. The bunch is similar to that of the *White Muscadine*; the berries are small, round, and greenish in colour; the skin is thin, flesh very tender and melting, with a refreshing, watery juice, and a marked aroma of the Muscat. The specimens exhibited were ripened under glass; but Mr. Rivers stated, as its chief recommendation, that it would ripen out of

doors as freely as the *White Sweet Water* and *White Muscadine*.

The following gentlemen were elected ordinary Members:—

MR. THEODORE VON SPRECKEISEN, Hamburg.
MR. SOLOMON, Fruiterer, Covent Garden.

THE July meeting of the ENTOMOLOGICAL SOCIETY (at which the President, W. W. Saunders, Esq., F.R.S., Treas. Hort. Soc., &c., occupied the chair) was rendered a special one, in order to fill up the vacancy in the Secretaryship caused by the resignation of Mr. Douglas, who had occupied that post during the last seven years in conjunction with Mr. Edwin Shepherd; whereupon Mr. Ianson, who has for some time past acted as the Curator of the Society, was elected joint Secretary, in the stead of Mr. Douglas.

Dr. J. E. Gray, of the British Museum, moved a vote of thanks to the latter gentleman for his efficient services during the period he had held the Secretaryship, which was carried unanimously; as was also a vote of thanks, proposed by Mr. Douglas, to the President, for the liberal manner in which he had entertained the members of the Society, on their annual excursion, which had taken place at Reigate, on the 21st ult.

A numerous list of donations to the library was read by the Secretary, from the Royal and other Societies of Bavaria, Moscow, Stettin, the Linnæan Society, Society of Arts, &c., including, also, the fine work upon insects preserved in amber, published by the late Dr. Berendt.

Mr. Westwood gave a detailed account of this work, of which three folio volumes have already appeared, dwelling upon their great value as illustrations of the insect races of an antediluvian period, which, owing to the transparency of the material in which they were preserved, were far more satisfactorily capable of examination than those found in the stone series. He trusted, moreover, as the collection of specimens was intended shortly to be offered for sale by Madame Berendt, that the British Museum would not miss such an opportunity to enrich its zoological series, regarding these specimens as belonging to the zoological rather than the palæontological collections, filling up, as they did, many gaps in the series of existing forms.

Dr. Gray said, that it was necessary to be extremely cautious in such a matter, as he knew that impositions had taken place. A small fish had, in one instance, been introduced into a piece of amber, the orifice of the hole having been subsequently closed with a gum of the same colour, so accurately as to have deceived a first-rate collector. Many specimens, also, of gum anime, containing insects, had also been sold for amber. He should, however, be very happy to secure the collection for the national Museum.

Mr. Douglas exhibited four new species of minute Moths, belonging to the family Tineidæ, taken at Box Hill, near Brighton.

Mr. S. Stevens exhibited various interesting Colcoptera, collected by Mr. Foxcroft in Scotland and Wales, including *Uleiota flavipes*, *Chrysomela cerealis*, &c.; also

a living specimen of *Lebia crux minor*, and specimens of the plumless plume Moth, *Agdistes Bennetti*, reared from the caterpillar, as well as full-grown larvæ of *Notodonta Carmelita* and *Petasia nubeculosa*, reared from the eggs; and also a box of beautiful Butterflies, recently received from Brazil, collected by Mr. Bates.

Mr. Augustus Shepherd exhibited a fine specimen of the rare Moth, *Gastropacha ilicifolia*.

Mr. Adam White exhibited a box of rare and curious insects, collected by Mr. J. Bowring at Hong-Kong, and in Siam and Java; and Mr. Bowring himself gave some account of their habits, including the transformations of a species of the interesting genus *Sagra*, and of a Chinese species of *Elater*.

Mr. Wilkinson exhibited some living specimens of the beautiful Fire-fly of the West Indies, *Elatér noctilucus*. Although in a weakly condition, many have been brought from Havannah by way of New York, which had occupied six weeks, during which time they had fed upon moistened sugar; they yet emitted a lovely, pale-greenish light, both from the two spots on the back of the prothorax, and also from the membrane connecting the thorax with the abdomen. On being excited by being placed in warm water, the light became much more vivid.

Dr. Calvert exhibited some larvæ of *Noctua cubicularis*, which had proved very destructive to his crops of rare grasses, in a growing state, by devouring the seeds when nearly ripe. They were also very injurious to wheat, by feeding upon the grain in the same manner, as illustrated by Mr. Curtis in the "Journal of the Royal Agricultural Society." They were, however, very partial in their attack, as they would not touch one species of *Festuca*, although they devoured the other.

Mr. Westwood brought for distribution among the members, specimens of *Porrectaria Laricella* and *P. Hemerobiella*. The latter feeds upon Pear leaves in the garden of the Horticultural Society at Chiswick; the former is occasionally injurious in Larch plantations. He also exhibited some leaves of wheat, the extremities of which had been rolled up by the caterpillars of some species of *Tortricidæ*; and also a new and very beautiful species of *Saturnia*, with its cocoons, from California, where attempts had been made to use it in the manufacture of silk, but apparently with little success, owing to the structure of the cocoon.

Mr. Staunton read a memoir on the study of *Microlepidoptera* on the Continent.

GARDENERS' BENEVOLENT INSTITUTION.—In the list of subscribers at the anniversary dinner of this Institution, which we recently published, we regret that we omitted to record the name of Mr. M. Busby, of Stockwood Park, near Luton, who very liberally contributed the sum of *Ten Pounds* towards the fund of this admirable charity. We trust that many more will follow his example.

HYBRID TROPÆOLUMS.—We have again been favoured with examples of the successful hybridizing practised by Mr. Melville, of Dalmeny Park. On former occasions we noticed his success in the way of garden vegetables, but those which are now presented to us are the produce of a cross between the Indian Cress and *Tropæolum Canariense*, which Mr. Melville undertook with the view of throwing more colour into the latter. This seedling, which was marked No. 1, is a very fine scarlet, and others are of a deep orange. There were also several varieties of *Tropæolum Schuermanniana*, which showed many shades of colour; they are perfectly hardy annuals, and grow in moderate soil four feet high when staked. In the same box which contained the Tropæolums were several specimens of a now and, we must say, a very greatly improved variety of *Collinsia bartsiaefolia bicolor*, which is as superior to that which is usually met with under that name as the now beautiful Pansies are to the old Heartsease. Its flowers are large, inflated, and expanding, and of a pure snow white. It will make an admirable ingredient in a bed where a fine white is required.

BEDDING PLANTS.

ANOTHER large handful of rooted cuttings of the *Variegated Mint*, which I have just received, with a collection of bedding plants, from another of the first gardens in England, is a sure sign that this old and long overlooked plant has made its way at last on its own merits alone; for, until the "Yorkshire Clergyman" brought it before us last spring, I do not remember to have ever seen a word about it in print. Everybody hereabouts calls it a Balm; but that is wrong so far, as there is a little group of distinct plants under that title in our lists already, *Melissa* by name; and there are other Balms so called, but there are no true Balms except under *Melissa*. The Mints are more numerous, and it sounds odd to put Mint into a flower-bed, and that is why neither of the contributors to the Experimental Garden named the Mint they sent in abundance. *Mentha*, the Latin or book name, comes so near the sound of Mint, that I know nothing for it but to hold to the common name of Variegated Mint, *Mentha rotundifolia variegata*.

On the threshold, however, let me warn my readers to have this kind of Mint removed, or transplanted, every year, or second year at least, and to keep it out of rockwork, for it takes a powerful hold of the soil, and is as difficult to remove entirely from it as a Russian army, in comparison to common Mint.

Mr. Wright, gardener for many years to Miss Lassette, near Kingston here, told me that he was the first who introduced it into this neighbourhood from Berkshire, fourteen years back, and now he can hardly get rid of it in his own garden. Many other plants make useful servants but bad masters.

Now, read what the "Yorkshire Clergyman" said about it, and be thankful for so useful a thing as ever a variegated plant has been in the flower-garden. Recollect, also, that there is no beauty in it except the variegated leaves, and that may be said of all the old variegated plants and of most of the new ones. There is the "Old Scarlet" variegated, *alias* Silver-edge, *alias* Shot-silk Geranium, which is still the best bloomer of the old race; then *Mangles' Variegated*, *alias* *Mangles' Silver-edge*, *alias* *Mangles' Silver-bedding*, with all its beauty in the leaf. *Flower of the Day*, the widest known

of all the new ones, would not be grown on a mixed border for its flowers—the whole beauty is in the leaf. The *Attractions*, the *Silver Queen*, the *Mountain of Light*, and three others of that class which were sent in to me (but the names are not yet on the nib of the pen), are all very good, but the leaves are by far the best part of them; and, without boasting of the chickens till the eggs are hatched, I may give an extract from my "Chronicle," which seems to imply that the variegated leaves of *Brilliant* are not of much account as such:—"The style of growth in this variety is the nearest to perfection for a bed of all the kinds I know. The flowers are as bad in shape as those of any scarlet can be, slit open between the petals, and the top of each petal rolling back in the sun, giving a wretched look to a single flower; yet, from the habit of the plant and the intense colour of the flowers, laying the variegation in the leaves aside altogether, I predict, thus early, that *Brilliant* will be as much cultivated in ten years as *Tom Thumb* is at present." Now, this early and hasty judgment, which was not intended to see the light, but is forced on me by the subject in hand, must not be taken as sound and lawful. Hasty judgments, like hasty marriages, may and often do turn out the best in the end; but careful people avoid them as much as possible.

Having broken the ice, take another leaf out of the Chronicles of the Experimental Garden; it is from notes on *Rosea compacta* Geranium, one of the scarlets:—"I think this kind was first sold by Mr. Salter, of the Versailles Nursery, Hammersmith, a few years back, for 10s. 6d. a-piece. The first time I saw it was in 1853, at the garden of the unfortunate Horticultural Society. It seems to be a continental seedling. In 1855 it grew well with me in the open air, and would have made a nice small bed, or a good edging to a bed of variegated plants. The leaf is plain, that is, having no 'horse-shoe' mark; the flowers are small, with a florist's outline. They are of a light rosy hue; but the habit of *short joints and long flower-stalks*, which is the perfection of a bedding Geranium, are the main points of recommendation for *Rosea compacta*, which is, most certainly, the best drawing-room plant which has yet appeared among the scarlet race."

Then follow the "properties" for breeding each kind, and the best kind to cross with, with surmises about how so-and-so would affect this and that kind, if it could be worked upon by an offspring of such and such. That part is then followed by the stud calendar; but the most difficult part of the undertaking seems to belong to the "turf," and here I am at fault; for, although I have been long enough on the turf to learn all the "moves," I cannot yet fully determine beforehand whether a given flower, a new seedling, will look best and tell better on turf, grass, or gravel; but the Chronicle will never be complete, to my mind, without the registration goes to the very last move.

As far as I can judge from very nearly one hundred kinds of bedding Geraniums now in the Experimental Garden, no one has taken advantage of the extreme dwarf, bushy habit of *Lady Caroline Courtney*, a seedling of 1844, which flowered for the first time late in the autumn of 1846; and that very plant is now in full bloom in this garden. As soon as I came to Surbiton, I began this strain, but there is nothing very particular from it yet in the way of show, only in "dwarfs" and gaping flowers, but some of the tints are the most lady-like you ever saw; but the crowning flower of this season is *Sir Colin Campbell*, from Mr. Jackson, and *Sir William Middleton*, from a duke.

I said I would never part with the original *Lady Caroline*. My two specimens of *Lady Middleton* are in, as if for the Derby, to bloom in winter. If I do not kill them with experiments, I shall never part with them either, for I am now quite convinced that the older any

one of the race is the finer *it may be*; but *Sir William Middleton* is by far the very best of that stamp for beds, pots, or boxes, and I shall keep that very plant of it from his Grace, and will recommend it to others as long as I have life left in me. It is only a cross-breeder who can rightly appreciate such a thing out of such a race, and as such, I am more proud of *Sir William Middleton* than of all the other seedlings I sent into the world; but I did not send this into the world, and no one else has, up to the present hour; but it is high time the public should call for it, if only for the change.

There is a very beautiful-looking new Ivy-leaf among a splendid collection of bedding-plants, which were sent to me from the Messrs. Henderson, of the Wellington Road Nursery; it is called *Etirole de Paise*, and is a severe cross, if I mistake not, between some variety of the old *Coral-stemmed Geranium* and *Lateripes roseum*. I have not seen the flowers. *Couch Bank Rival* is the best scarlet for pots I have yet flowered; I had it from Mr. Low, of Clapton, along with others. If it will bed as well as pot it will be a grand thing. I want its pedigree and history.

In about three weeks I shall mention some kinds I want particularly, but I fear lest I break under the weight of the contributions before them. I have now more than enough of all kinds of Ivy-leaves, except *Peltatum variegatum*, and if it is in existence I hope some one will send it from somewhere.

About the old *White Ivy-leaf Geranium*, I find, from my contributions, that a little explanation is necessary. There are two varieties of it; the oldest one has smaller flowers, and is the true *Lateripes* of *L'Heritier*. The large white-flowering variety was made a species of by Sweet, who named it *Scutatum*, and it may be some consolation to one who wrote to me lately, saying that I took too much liberty with the compilers of the *Encyclopædia of Plants*, to know that the said compilers could not make out to what section of *Geraniums* the large white-flowering Ivy-leaf belonged; and that *Scutatum* stands in all editions of the *Encyclopædia*, and of the *Hortus Britannicus*, as a garden variety of doubtful origin! The fact is, we wanted long since to place less confidence in our compiled books and chartered societies, and to betake ourselves to experimental gardening on our own account. To this we are come at last, however; and we must now bear in mind, that it is of more importance to arrive at the truth than to care for whose authority we may take liberties with. D. BEATON.

THE GARDENERS' BENEVOLENT INSTITUTION.

THE present seems a fit opportunity for offering a few thoughts on this well-meant, kind-hearted Institution. I could choose no better medium for doing so than the pages of a work, all the prominent contributors to which, so far as I am aware, are also contributors to this valuable Society. The time for doing so I believe to be appropriate for two reasons. First, the institution was never in a more flourishing condition than at the present moment; and, secondly, because I fear that unless a proper understanding be arrived at, instead of making rapid progression in the improvement of its finances, as it ought and deserves to do, its culminating point of prosperity will soon be reached, so far as subscriptions from practical gardeners are concerned.

I arrive at this conclusion partly from the discussions and complaints that have lately appeared, but more particularly from the answers I have received, and the very little success I have met with, when making extra efforts this season to enlist fresh recruits in the good cause.

No evil has ever been cured, no misfortune averted, from resolutely refusing to consider the causes of either; but seemingly great evils have often been melted down to almost imperceptible atoms, and serious misunderstandings have been wholly removed, by a little friendly explanation, and a courteous discussion of diversified opinion.

Whatever disappointments may have been felt, I do not suppose that any person is at all to blame. If there are faults at all, they are in the system and not in the administrators. No individual member can be so presumptuous as to expect that his opinion should be adopted by the Society; he may expect that it will be treated with attention and candour, and in that he will not be disappointed. I shall deem it my duty to record the objections with which my appeals have been met, and leave it to the wisdom of our committee to judge whether any and what changes may be necessary.

The first and the most telling objection to subscribe was *inability* to do so. In some cases this was merely a pretence. It was evident that the objectors were in better circumstances than some who honourably subscribe at the expense of a little self-denial. It is noble to witness the rich contribute of their abundance; but the highest, the truest, the most valuable of all benevolence is that which is exercised by self-denial of luxury and comforts. Some gardeners give themselves the trouble of writing to solicit votes for a candidate, who ought first to have been in a position to give their own. Still, it is too true that as a class we are unable to subscribe one guinea annually to a benevolence administered in London. The rearing and educating of their families, and sparing a little for local, religious, and benevolent purposes, and perhaps a small annual sum for insurance, swallow up the whole of most gardeners' limited income. This drawback can only be neutralized by gardeners, as a class, being better paid. The importance of this being done was boldly enunciated by Sir Joseph Paxton at the annual festival; and my chief regret at not being present arises from not having heard those telling and burning sentences uttered. Few gardeners could read those words without feeling their hearts expand with delight, not so much that a brother of the spade had attained such deserved honours and distinction, as that the true greatness of the man in thus thinking of the interests of his former associates, over-topped them all.

The second objection, with what consistency urged, I am unable to say, was based on the influence exercised by the nurserymen and gardeners about London, so that a provincialist has no chance of succeeding as a candidate. This objection, if at all a true one, is evidently based on the principle, that it is more pleasant to know and see the object of our generosity than to send our subscription to be given to a stranger. I have little faith in the public benevolence that eschews the practice of the social and private charities; but I have as little faith in the practical benevolence of those who meet every claim with the old dogma that "Charity should begin at home," having long found that this sage utterance is generally associated with the fact, that charity had no chance of beginning anywhere, being denied even a peep beyond the hard shell of a mistaken selfishness. There is, no doubt, a pleasure in giving to a known deserving object. Beyond this, all benevolence in the way of worldly means is better distributed by a society than by individuals, as such a committee as that of the Benevolent Institution make inquiries more strict and ample respecting candidates than any private person would like to do. Let us hope, therefore, that those who have the means will show full confidence in our London committee. As to *ultra* London influence, I will, before I close, mention a mode by which it may be neutralized, if it exists. In the meantime, casting my eye over the

last election, I find that Robert Hodge, of Pocklington, Yorkshire, received on the first application the large number of 235 votes, while Benjamin Priest, of Brixton, received only 4; and William Jackson, of Kennington, on a third application, received only 96 votes, though he had subscribed *nine* years to the charity—so far tending to show that provincialism had a fair chance against metropolitanism.

The third objection I have met with is what is called the *injustice* of placing the widow of a pensioner, if a suitable person, at once on the funds, "*without the trouble and expense of an election*," even though her husband never contributed a farthing to the charity; while the widow of a member, who may have contributed for twelve or fourteen years, and in every respect as deserving and needy a person, must go through the trouble and expense of an election. No doubt such a rule was framed from real kindness; and so far as wishes would go, we would all wish that the funds were so large, that every widow who needed it might be placed on them. There can be no question of the propriety of the rule, if the Society was based entirely upon a voluntary benevolence; but as (I think, unfortunately), the Society has blended with this benevolence, just enough of the principle of a benefit club and of life assurance to be troublesome, "the object being to give a decided preference to those who have been contributing to assist others," it does seem hardly fair, that a widow of a pensioner who never subscribed should have such an advantage over a widow like Ann Arnold, who has already stood four elections, and will have to stand a fifth or a sixth, though her husband contributed for eight years to the charity. In fact, the widow of such a pensioner as I have supposed stands exactly in the position of a contributor for fifteen years, and like him, if a suitable subject, can demand admittance, according as the rule now stands, as a matter of right and not as a matter of benevolence.

The fourth objection had not only a reference to the above, but to the *inconsistency* of the result of the elections generally, with the professed object to give a decided preference to those who have been contributing to assist others, as non-subscribers frequently stood at the top of the poll, and got in with least trouble. It is seldom that a pure and simple benevolence can long go on harmoniously in unison with that benevolence that calculates the ultimate profit its manifestation will yield. The originators of the Institution, no doubt, did their best to secure support. The title of *Benevolent* brought assistance from many who were not at all likely to want any assistance from it. Some of the rules, such as the sixth, were, no doubt, formed to entice those who might look for some return for their outlay. The two motives now come into collision, and complaints are made. One class contends that it has a perfect right to vote for whatever candidate it chooses; a second class says you ought to vote only for a subscriber. The committee has no power to act one way or the other. It leaves each party to act out its own convictions. Many, no doubt, have acted as I have done. I knew none of the candidates personally. I have voted for subscribers; I have also voted for non-subscribers, as Messrs. Mearns and Blair. In fact, looking upon the Institution purely as a benevolent one, I did not enter much into the question of subscribing or non-subscribing candidates. The last election was the first, I believe, in which a member was admitted as a pensioner without an election, he having contributed to the Institution for fifteen years. In such a case, according to the rule as it now stands, the duty of the committee is obvious. Were there enough of candidates who had subscribed fifteen years there would be no elections at all. Admit, as is here broadly done, this compensating principle as the result of subscribing fifteen years, and there is force in the complaint, that no number of years below the

fifteen can guarantee any advantage. If it was necessary to keep to this test of fifteen years, equity would seem to require that something of the nature of a sliding scale should be adopted, according to the number of years' subscription. But just in proportion as this is done, you take from the Institute much of its title of "*the benevolent*." Benevolence is the kindness that has manifested itself freely and voluntarily; if asked for it must be as a favour, not demanded as a right. John Dicker, who subscribed fifteen years, and every other member, in similar circumstances, who can satisfy the committee as to position and character, can ask to be received as a pensioner, not as a favour, but as a right; and there is no benevolence in giving what cannot be withheld. Those who make complaints will see that without changes the committee are powerless to move either way in the matter. Prudence would dictate mutual forbearance.

The last objection I would allude to is the *whole system of canvassing for votes*. None who have not been engaged in such matters can know the excitement, trouble, and expense of repeated contested elections. The depression of disappointment cannot be avoided, for all cannot be successful; but nearly the whole of the expenses incurred, being entirely a matter of usage and custom, could easily be saved, merely by the Society resolving that there should be no canvassing. Just imagine a poor man, or his widow, much in need of the pension, not only being defeated, but losing the election, after they had deprived themselves of necessities, and been obliged to solicit all these friends to help them—for what? To pay for ever so many pounds of postage stamps and envelopes—to canvass the voters through the post, money all completely lost to the candidate, and of no benefit whatever except helping the Post-Office revenue. In charities where the voting members are very numerous twenty or thirty pounds would be a very moderate sum for postage merely to solicit votes; and thus it often happens that the real charity of the subscribers is deprived of much of its benefits to the receivers, and is a great total loss to the defeated candidate. Defeat is bad enough, but much worse when attended with a deeper sinking in poverty. Even in our Institution the writing to each member would cost from £3 to £3 10s., and if answers are expected, nearly a double sum would be required to enclose a stamped envelope. In each renewed contest much of this must be repeated. Are these trifles to a poor woman anxious to get £12 per annum, or a crippled old man to whom £16 is such a treasure? And what good does such canvassing serve? Would not a clear statement of the circumstances of each case by the committee answer every purpose of any number of postage-paid circulars and cards, and enable the voter to come to a more serious decision than when tugged by an old acquaintance in behalf of a favourite candidate on one side, and drawn towards another by the eloquent pleadings of some compassionate lady, until he wished, for once, that he had been blessed with riches to relieve the anxieties of all?

I have no doubt but that the most thorough and persevering canvassing is generally the most successful; but this is just a strong argument against its use, for the comparatively comfortable are able to canvass; the most needy cannot command the means, and therefore fail.

As has already been mentioned, complaints have been made that two or three nurserymen can put in who they like. I do not believe it; but do away with canvassing as a general practice, and their influence, if now excessive, will be rendered perfectly legitimate. As respects this and other charities, I have been told several times lately that, owing to this expense of canvassing, and that repeatedly, the trouble and the outlay counterbalanced the advantages. We profess to bring our benevolence

to bear upon those associates straitened in pecuniary means. Can we, with consistency, throw open that relief to them *only* after they have sunk deeper in want and distress? Pass a resolution condemnatory of the whole system of canvassing, and you will hear of few complaints, for at the bottom of most of them lies this wasted, lost money; and you will take from defeat and disappointment this most virulent sting, just because you have resolved that the candidates for your favour, if unsuccessful, shall be made no poorer in a pecuniary point of view. If there was the slightest difficulty, it would easily be met by the committee giving a more detailed account of the circumstances of the respective candidates in the usual polling-paper. This last objection I look upon as the most important. Will friends and members say at once, it shall be seriously and carefully considered?

R. FISH.

ROSE CUTTINGS.—CUTTINGS GENERALLY.— COCOA-NUT FIBRE REFUSE FOR MULCHING.

WHAT is the best time to put in Rose cuttings? Mr. Errington put in lots of them last summer, about the end of June, and gave them the benefit of a mild bottom-heat in a spent hotbed; and I know an old grower of Pinks and Clove Carnations, who strikes all his pipings of both in a similar spent hotbed, and has done so for more than thirty years, without any variation as to time or superintendence. He puts them in about the end of June, and his pipings are never more than just one inch long—merely the last joint at the top; and the grass he cuts back to as much as will make his one-inch cuttings. His compost is very rich and very sandy, and he screens it through such a fine sieve that it feels to the touch like so much flour from the mill. Neither he nor any one else can tell what his compost really is, for he keeps up the “old rubbish-heap,” with as much care as he does his Onion-beds; everything dead or alive, good, bad, and indifferent, goes to the rubbish-heap for twelve months, and for two years after that it is turned over and over as often as he can spare a careful hand for the job, and till you would think the whole was one mass of fine powdery stuff. There is not a cutting he makes but is rooted in that compost; and he sifts it very fine for the softer cuttings, and adds a great deal of sand to it. He too says, that from the end of June to the middle of August is the best time to put in Rose cuttings of all sorts, and that most of the old class of summer Roses will root at that time if put into his universal compost, well sifted; then to open trenches across a south border, as if for Peas; fill the trenches with that compost, stamp it down firmly by walking over it, and it is fit for putting in the Rose cuttings, which are also made very short—not more than three inches, and some not half that—and all of them, if possible, with a heel or a burr from the union with the last year's wood. He presses the soil about them so hard that one might think the wet would never get down there; and if the time is dry, or very hot, he shades a good deal with boughs stuck into the ground just like staking for Peas, and about a yard high. He despises all books on gardening, and all writers of books he puts down as so many cock-combs; yet he is as successful in most branches of the art as the best of us, but sends nothing to the shows, because he believes gardening “has been brought down to that pitch by all this writing, that there is not a man in the country fit to be a judge of really good things!”

Sometimes he says that such and such cuttings will do any day in the year; but I never could get him to say that Rose cuttings would do better than in July: and I recollect, some years back, when Mr. Cole, now nurseryman near Birmingham, came to me at Shrubland Park, he enjoyed a good reputation as a Rose

grower, and that was the very first trial of strength I imposed on him; but he put off the thing till the end of June, and then struck off about 800 Rose cuttings in six weeks, in a two-light box, over a gentle hotbed, and with a couple of inches of silver sand all over the bed, as if for a cutting-pot; then well watered the sand, pressed it down, and put in his cuttings as thickly as possible, some with and some without leaves; but they were all easy sorts to root, and were intended chiefly for stocks to work others on.

Now, against all this, allow me to give the result of our last move in the Rose line in the *Experimental Garden*. I cannot say if we were the earliest in the country with them, or the very latest. Every one of the cuttings was made and put in during the week between Christmas and the new year; and I think the last few rows were put in the first days of the new year. On a rough guess, there are from twelve hundred to a thousand and a half, and not more than a score have failed to root out of the whole; and just now the cutting-bed is as full of Roses as a patch of them in a nursery-garden. The sorts are all the best sorts of the last ten or fifteen years. I never saw a better hit with so many kinds; but there they are, and the old despiser of book learning may see them by a personal application to the writer; and the next time I can get him into the humour of talking about gardening I shall be able to prove to him, as clearly as anything can be proved, that every day from the middle of June to the last of December is “the best time” to put in Rose cuttings in the open ground.

But I would go a good length with the old heretic in his prejudice about so many leaves to a cutting. He hardly allows a whole leaf to any cutting, and very few “docked” ones. I believe, however, that our success depended in a great degree on a new kind of mulching material, on which we have been experimenting since last October. This material is the refuse of the cocoa-nut (*Cocos nucifera*) after the fibre is extracted, which fibre is now known all over the country as making the best mats for doors, passages, halls, and other places where foot-mats are used. The manufacture of this fibre from the cocoa-nut is carried on here at Kingston, and an immense accumulation of the refuse is on sale at a low figure. We get a one-horse cart-load of it for one shilling; and it is the very best material for mulching all sorts of plants, from newly-planted hedges to that of Rose cuttings, that I ever heard of. Last winter we used it round the cold pits and frames; round every tree and bush and cutting we planted in the open air. We use it to plunge pots in this summer, and I am perfectly certain that it wants only to be made known to be in request for similar purposes in all situations where it can be had as cheap as tan; or even were it double the price of tan by long carriage, I am satisfied that a gardener who once gets a relish of it would never want to be without some of it by him in the framing-ground. It seems to be free from all tannin and caustic juices, for no plant that I have yet tried seems to dislike it, but will root out into it as into leaf-mould. When it is once wet, it seems never to dry right through. All the dry weather we had this spring and summer only rendered the surface a little powdery. There is not more than one inch thick of it over the Rose-cutting bed; but the surface of that bed has been as moist all along, up to this day, as it was when we put in the cuttings last Christmas. For filling in alleys in the kitchen-garden it makes a cleaner walk than the best gravel; and when it is quite rotten, I believe it would make the best “leaf-mould.” A gardener who buried lots of it three feet deep to fill up inequalities in a new garden some six years since, trenched up part of it this spring, and told me it was as black as peat and as “fat as fresh butter;” but I did not see

it in that state. When left on the surface it seems to last a very long time. The first we used of it last October is now as fresh as when we had it, and we think so highly of it that at the end of last May we mulched some hundreds of yards of quickset hedges with it, putting it on two inches thick and eighteen inches wide all the way. These hedges are seven years planted, but being round a grass field they got so choked up with grass as to hinder the growth of the plants; but after digging the ground and laying on this new mulching they have gone on right well, and very few weeds have got through the stuff. I hardly know how to describe the stuff, but say a reddish-brown sawdust, as from sawing cedar wood, filled with boar's bristles, the sawdust-like substance being the ground shell of the nut and the bristles the refuse of the fibre, of which the aforesaid mats are made. I cannot give any more information about it, as I do not happen to know any one of the firm, or if there be more than one. I only heard of it "promiscuously," and the rest is from the Experimental Garden.

D. BEATON.

FLORISTS' FLOWERS.

THE CARNATION AND PICOTEE.

THESE are eminently and emphatically florists' flowers, requiring, from March till the blooming season is over, almost daily watering and judicious treatment. The points of culture necessary may be briefly stated to be procuring the proper soil, which consists of fresh maiden earth, formed of four-inch thick turves from an upland pasture, well decayed, and sweetened by frequent turning. Of this take three parts; add one part of two-year-old cow-dung, and one part well-decayed leaf-mould; mix them well together some little time before using, and place the necessary quantity under shelter a sufficient time to dry before it is wanted. The next point is to grow them in large pots, potting them in March, for it has been proved that the colours seldom come true in the open border. These pots should be at least ten inches across to hold a pair of plants. Being so large, the plants do not suffer so much from drought nor from too often watering. In smaller pots they require more frequent watering, which is injurious, inasmuch as it washes away the nutritive qualities of the soil just at the time when the flowers begin to open and require the greatest support. The third point is the sticking and tying the stems. The sticks should be put in early, just before the stems begin to rise, and the ties should always be so slack as to allow for the swelling and growth of the stems. Another point is thinning the buds. If strong in stem, leave three on each; if weak, only one. Just before the buds break, tie a piece of bass-mat round each bud, to prevent it bursting on one side, or, which is better, place a small India-rubber ring round each; and, lastly, shade the blooms from rain, wind, and sunshine.

The Carnation is chiefly propagated by layers. This operation should be performed as soon as the shoots rising round the flower-stems are long enough. This layering is a neat and interesting operation. I will briefly describe it, though I would advise any amateur who has never seen it done to visit some garden, and ask an experienced hand to give him an ocular demonstration how to do it. I may, however, just state, that the shoot to be layered should have the lower leaves trimmed off pretty close to the stem, leaving about four or five on the top; then with a sharp penknife make an incision on one side, just below the third joint; then peg it down, and cover the cut with some light soil. When rooted, take them up, pot them in pairs in 4-inch pots, and keep them through the winter in a cold pit or frame, giving due supplies of water and abundance of air in fine weather.

The Picotee, which is a variety of the Carnation, requires precisely the same treatment. For more minute directions on the culture of these lovely, sweet flowers see former numbers of THE COTTAGE GARDENER, and also THE COTTAGE GARDENERS' DICTIONARY, especially in the new edition now issuing in numbers.

TWELVE NEW SELECTED CARNATIONS.

1. *Christopher Sly* (May).—Deep scarlet flake. Very fine.
2. *General Simpson* (Puxley).—Crimson bizarre. Very fine.
3. *John Gair* (Puxley).—Crimson bizarre. Distinct.
4. *King John* (May).—Rose flake. Large and very fine.
5. *Lord Cardigan* (Puxley).—Extra fine crimson bizarre.
6. *Morgan May* (Puxley).—Pink bizarre. Good.
7. *Orion* (Puxley).—Scarlet flake.
8. *Sir Colin Campbell* (Puxley).—Pink bizarre.
9. *Silistria* (Puxley).—Scarlet bizarre. Large and fine.
10. *Tenby Rival* (Puxley).—Crimson bizarre. Very fine.
11. *Warrior* (Puxley).—Crimson bizarre. Good.
12. *Victoria Regina* (Headley).—Scarlet flake. Large and very bright.

TWELVE OLDER SELECTED VARIETIES.

1. *Eclipse* (Nicklin).—Scarlet bizarre.
2. *Mr. Ainsworth* (Holland).—Scarlet bizarre. Large and fine.
3. *Sir Joseph Paxton* (Ely).—Scarlet bizarre. Large and fine.
4. *King of Carnations* (Puxley).—Crimson bizarre.
5. *Prince of Denmark* (May).—Crimson bizarre. Very large and fine.
6. *Beauty of Woodhouse* (May).—Purple flake.
7. *Premier* (Millwood).—Purple flake.
8. *Exit* (May).—Scarlet flake. Extra fine.
9. *Salamander* (Turner).—Scarlet flake. Very bright.
10. *Sarah Payne* (Ward).—Pink and purple flake.
11. *Flora's Garland* (Brook).—Rose flake. The best of its class.
12. *Lovely Ann* (Ely).—Fine rose flake.

TWELVE NEW SELECTED PICOTEEES.

1. *Amy Robsart* (Dodwell).—Purple edge. Good.
2. *Bessie* (Turner).—Medium purple edge. Extra fine.
3. *Chancellor* (Headley).—Heavy red edge. Fine.
4. *Dr. Pitman* (Turner).—Heavy red edge. Pure white ground.
5. *Eugenia* (Turner).—Light red edge. Very large and fine.
6. *Lady Eleanor Cathcart*.—Heavy scarlet edge. Very bright and fine.
7. *Mrs. Drake* (Turner).—Heavy scarlet edge, full size. Very bright and fine.
8. *Mrs. Bayley* (Dodwell).—Heavy purple edged. Good and very bright.
9. *Mrs. Lochner* (Turner).—Heavy red edge. Great substance. Solid, very bright, and fine.
10. *Mrs. Keynes* (Norman).—Light purple edged. Fine.
11. *Mrs. Aithin* (Turner).—Medium purple edge; full flower. Large and fine.
12. *Sultana* (Turner).—Medium red edge; extra fine Large smooth petal.

TWELVE SELECTED OLDER VARIETIES.

1. *Duke of Wellington* (Turner).—Heavy red edged. Fine.

2. *Mrs. Headley* (Headley).—Medium red edge. Large and good.
3. *Mrs. Hoyle* (Hoyle).—Heavy red edge. Good.
4. *Rosetta* (Turner).—Light red edge.
5. *Eliza* (Payne).—Light purple edge. Well defined.
6. *Finis* (May).—Light purple edge. Pure white ground.
7. *Mrs. May* (Turner).—Heavy purple edged. Extra.
8. *Robin Hood* (Turner).—Medium purple edge. Large flowers.
9. *Alice* (Hoyle).—Rose and scarlet; heavy edged. Extra fine.
10. *Countess of Errol* (Turner).—Light edge, rose and scarlet.
11. *Lady Grenville* (Turner).—Heavy rose and scarlet edged. Peculiar pleasing shade of colour.
12. *Mrs. Barnard* (Barnard).—Rose and scarlet edge. One of the best.

SIX YELLOW GROUND PICOTEEES, SELECTED.

Aurora, Bullfinch, Guernsey Maid, Mount Etna, Supreme, Topaz.

T. APPLEBY.

(To be continued.)

MUSHROOMS IN BOXES.

A CORRESPONDENT, whose case, doubtless, resembles many others, says that he has some spare boxes, twenty inches square by twelve deep, in which he wants to grow Mushrooms during the autumn and early winter, and afterwards to use the same boxes for forcing Sea-kale, Rhubarb, and other things. His only place to store them is under the stage of a greenhouse, and he asks for advice in the matter. Now, this being a very common case, deserves attention, for the very economy of growing forced vegetables underneath the stage of a greenhouse is, in itself, a proof that the cultivator is imbued with the laudable desire to make all he can of his heating apparatus, which, he says, he can manage to keep up to 60°, or something like that temperature. Without expecting his greenhouse to be heated so much in the autumn months, there is reason to believe that for some considerable time the temperature will average that heat without artificial means; and during that time it must be used to the best advantage to forward the Mushroom crop, which we suppose to be the first one the amateur intends trying his hand at. And as he says he has a dozen boxes of the size mentioned above, it follows that he may adopt several plans by which this capricious production may be brought to present him with a successful result; and as the depth of the boxes is twelve inches, he may reasonably expect some of the contrivances adopted will answer, if not the whole of them; the only drawback being the limited time not allowing all the contrivances full power to act. And supposing he has his boxes all empty at the time these notes go to press, I will mention two or three different modes by which he may expect to produce a good crop of Mushrooms.

1st. Supposing there be access to horse-dung, then carefully shake out the droppings with a little of the short litter; let these be laid in some open place, but do not allow them to get much rain. Supposing there be a good cart-load, let it lie in a close heap until it shows signs of heating, which allow it to do merely for a few hours, then turn it, and repeat this operation the second day after, and continue doing this until it may lie four days without becoming rank or having an unpleasant smell, when it is ready to fill the boxes with, which may at once be done after first placing them somewhere out of the full sun, or where they can be properly shaded. It is advisable to fill them pretty tight; but the amateur,

having several boxes, might try one more loose than the rest, and mark the result. Generally, however, they do best when rammed tight, and some spawn put in near the top, which spawn may be obtained of most nurserymen; and the whole being made smooth, a stick may be thrust in to examine the heat afterwards; but if the dung has been properly prepared for a fortnight or three weeks, it seldom fails to continue to give out a genial warmth, sufficient for the purpose of the Mushrooms. After the boxes have been thus filled a week or ten days, if the heat seems gentle and steady, add a little maiden loam at the top, and then cover them up with loose hay or litter, which damp frequently; but do not by any means sodden the bed with moisture until the Mushrooms appear, and do not thoroughly water it then if it continues to bear well; but when it begins to decline, then give a good, sound watering, which may likely revive the bed or boxes, and they will make a fresh start again; but their growth this time will be shorter than before: in fact, this last watering is like a stimulant applied to a worn-out object—a push is made at the moment, and then all is over with it. A great part of these latter remarks applies to the other cases I shall herewith mention.

2nd. In some places it is difficult to obtain good horse-dung fresh from the dung-hill. Where this is the case it is advisable to procure some from those who make it their calling to collect it from the roads; but be sure to have such as has not been much heated in a large heap, being well dried on the road, and ground to dirt with the wheels of carriages, and a fair share of road-dust with it is of no objection; neither is it objectionable if mixed with cattle or sheep-dung. The same course of preparations may be gone through as with the above-mentioned, and in filling the boxes let one or more be mixed with good, dry pasture-loam; and if fresh spawn could be obtained, the chances are that this kind will be the first that will come into bearing.

3rd. Where neither of the above methods can be put in practice, and there is still a desire for Mushrooms, I would advise the amateur to get some good spawn, and plant pieces of it between rows of Potatoes that have been allowed plenty of room. In this he may have Mushrooms perhaps; but there is great uncertainty in it, as the digging up of the Potatoes often disturbs the spawn, after which it is seldom of any use. However, if there be any place where rough dung has been dug in during the past spring that is not likely to be disturbed, as, for instance, underneath a fruit wall, there by all means stick a few pieces of spawn in on such places, and, possibly, you may be rewarded with a plentiful crop of Mushrooms. The bright glare of sunshine ought to be prevented by some means; in other respects they require no further attention than letting alone.

4th. If the amateur has a Cucumber or Melon bed at work which has been made of dung, and which he can allow to stand over winter, then, by all means, insert a few pieces of spawn, about as large as an orange or so, into the bed by thrusting in a large stick or dibber here and there, and there is every likelihood that towards spring next year he will have an excellent crop of Mushrooms. I mention spring because it is rare that such beds show themselves before that time; but when they do turn out well, no place grows better Mushrooms than they do, and usually there is a good succession. I have a bed at the present time of that sort, which has been in bearing since February, and is likely to keep on for some time yet.

GENERAL DIRECTIONS.—It is proper here to observe, that a moist, warm atmosphere being what Mushrooms delight in, they do not require that atmosphere changed so often as plants of other kinds do. This, of course, cannot be prevented except in buildings erected ex-

pressly for them; but if the amateur be desirous to try what can be done that way, I would advise him to have thin, shallow boxes to cover over those he grows his Cucumbers in, which would also answer the double purpose of excluding light and uncalled-for drenchings of water, which they might by accident otherwise receive. If he does this, he need not cover up with litter, except in one or two cases, as there is a disadvantage in using litter sometimes. The spawn, instead of perforating the dung-bed in all directions, exhausts itself by running into the litter, and the straw becomes a mass of small thread-work, alike useless as a medium for the crop growing in, and for the purpose of covering.

There are many other purposes to which the boxes mentioned by our correspondent might be put; but as he wants them by Christmas or before to force Sea-kale, Rhubarb, and other things, I do not know of any way of rendering them more useful in the mean time; and, as his position for them (underneath the stage of a greenhouse) precludes their being used in any way as a store for plants, I cannot see any other mode of rendering them useful in the autumn months than the way I have suggested; and I will take care and give him directions in time about the next crops he purposes to stock them with, and have no doubt but he will find the under portion of his greenhouse stage as useful as the upper part. There is nothing more interesting than to see compact clusters of Mushrooms rising up in an artificial bed so closely joined together as to form a problem, when they are separated, how they all stood in so small a space, they being never so closely packed in a natural way.

We cannot well call Mushrooms thus grown forced, for probably there will not be any artificial heating applied; but towards Christmas, or even before if it be very cold, some additional warmth may be of service. The principal thing is to get them into an early bearing state, and they usually keep on pretty well, and few productions present a more interesting feature than Mushrooms when a good crop of well-formed clusters of them greets the eye at intervals not long apart. It may here be proper to observe, that watering will be wanted if the boxes stand on a dry bottom, or if the atmosphere surrounding them be dry, which it often is in September. Afterwards it becomes more charged with moisture; but it would be well to cover the boxes at once (after filling) with loose litter to keep them moist, which, however, remove if the spawn seems likely to run into it; and if the covering boxes were laid over that, so much the better.

J. ROBSON.

STRAWBERRY CULTURE.

I HAVE just read the first number of Mr. MacEwen's "Fruit Culture; or, The Culture and Forcing of Fruits. No. 1, The Strawberry, by George MacEwen, Gardener to B. W. Beaumont, Esq., M.P., Bretton Hall, and late Gardener to His Grace the Duke of Norfolk, Arundel Castle. Published by Groombridge and Sons, London, and sold by all Booksellers."

The work is handsomely "got up;" there is a coloured plate of the *British Queen* Strawberry, and an uncoloured plate of the *Black Prince*, together with an excellent likeness of *Keen's Seedling* and thirty pages of letter-press, all for the price of one shilling. Now, if you believe, as I do, that any man in his sober senses may go comfortably to bed after making a supper of bread and cheese and a pint of good home-brewed beer, you will not have any difficulty in summing up the hotel price of such a supper, or making a reduction of one-third of the sum if the man "sups" at home; but, in this broiling hot weather, the best plan is to make a good tea and go to bed without supper, rise earlier next day, and take an extra "mouthful" instead. Either way there would be very little sacrifice in saving a shilling to buy this number of the "Fruit Culture;" and I pledge my

word for it, that there is not a better treatise on the Strawberry in our language. Indeed, the Horticultural Society of London have found out this season that there is nothing in print but rank heresy about forcing Strawberries, and their Vice-Secretary has told the world in print, very recently, that British gardeners—English, Irish, and Scottish gardeners—know less than nothing on the subject of forcing Strawberries; that the secret of forcing Strawberries was only just then discovered, by Mr. George Gordon, in that Garden which the Council of the Society wished to get rid of, and by the very man whom the "Committee of Investigation" wanted to send adrift on the wide world, with only an "excellent character" from a set of managers who said—also in print—that it was not respectable to see men with "excellent characters" undertaking the conduct of the affairs of a gardening Society like theirs, or rather, ours, though I blush at the admission of being in such company.

The best answer to the libel on British gardeners is this—that the author of this treatise received the following awards last year for his forced Strawberries:—From the Horticultural Society of London, their first prize for Strawberries in pots, April the 3rd; their first prize for the best three dishes of Strawberries, on the 16th of May; and on the 20th of November, for the best single dish, their first prize also; at the Crystal Palace, June 2nd, the first prize for the best single dish, and the first prize for the best three dishes; at the Regent's Park, June 13th, the first prize for the best two dishes, and that prize was doubled at the instance of the Judges, for superior merit—a most unusual step on the part of fruit Judges; and at Brighton he swept everything before him.

Here, then, you may say, "is the best forcer and grower of Strawberries in the kingdom offering us his modes of management for one shilling; and although, as you well know, I do not much like going to bed without something hot, or think much about that sort of saving from the stomach which Mr. Beaton suggests, I think, on the whole, we might spare the shilling, and learn to grow our own Strawberries." So the book is bought, and read, and studied; the ground will soon be marked off for the new Strawberry bed, the man is to trench it as deep as the book says, the very same quantity and quality of dung will be used, and the planting will be done as they "did at the Duke's;" and, sure enough, a fresh start will be taken this autumn, and will be kept up with fresh blood till Strawberries are as plentiful as Blackberries.—D. BEATON.

THE GOOSEBERRY CATERPILLAR.

IN a communication from Mr. Walter Ballantyne, in No. 402 of *THE COTTAGE GARDENER*, that gentleman recommends white Hellebore as a cure for the Gooseberry Caterpillar, and I know that it is one which is eminently effective, it having been used by the cottagers in this neighbourhood for the last thirty years. But I have always thought it more desirable to avoid the use of such deleterious matters, particularly at a time when the bushes are covered with fruit, seeing that the pest can be prevented, and that "prevention is better than cure." It was, therefore, as a *preventive* that I recommended Mr. Nicol's mode of procedure in No. 397, and also my own use of the tan; and so persuaded am I that the course I adopted has been thoroughly successful, that I would urge it upon all who are suffering as I was. The plot of ground to which I referred is planted with 150 strong bushes, and since the time it was dressed with the three loads of tan, in 1844, it has never been dug or cultivated in any way, except being kept clear from weeds. This year, fancying the tan might have lost its virtue, and by way of securing the bushes from any danger of an attack, I had the ground top-dressed with three loads more, and I have not the slightest doubt but this will be sufficient to protect them for ten years further. A more economical, simple, and effectual preventive, therefore, I do not think can be practised; and, apart from its properties in this way, it forms an excellent covering to the surface of the ground in wet weather, thereby preserving dry and comfortable access to the Gooseberry plot when it would otherwise be all but unapproachable, the bark being always dry and clean.—ROBERT HOGG, *Bogan Green, N.B.*

GASTRONE'MA SANGUI'NEUM.

(BLOOD-RED GASTRONEMA.)



This greenhouse bulb belongs to the Natural Order *Amaryllids* (*Amaryllidaceæ*), and to *Hexandria Monogynia* of the Linnean system.

A native of Caffraria; presented to the Society by Messrs. Backhouse, nurserymen, York, in 1845.

A hollow glaucous stem, four or five inches high, supports a single sessile flower of its own length, surrounded at the base by a pair of long, narrow spathes. The tube is slender and greenish, and expands into a deep rose obconical throat, having six crimson lines running from the sinuses of the limb on the outside, and on the inside as many white bands, each with a crimson streak along the middle. The limb is very deep rose-colour, with six equal-spreading, oblong, whole-coloured segments. The leaves are nearly as tall as the flower, dark green, in a very small degree glaucous, and gradually widen towards the end, which is blunt.

A greenhouse bulb, which should be potted in rich sandy loam, and treated like *Habranthus* and similar bulbs. It is increased by offsets.

It is very handsome, deserving general cultivation even in the most select collections.

ON FORCING SEA-KALE AND RHUBARB, BLANCHING WINTER SALADS, AND PROTECTING LATE VEGETABLES. By JAMES DUNCAN, C.M.H.S., Gardener to Joseph Martineau, Esq., F.H.S., Basing Park, near Alton.

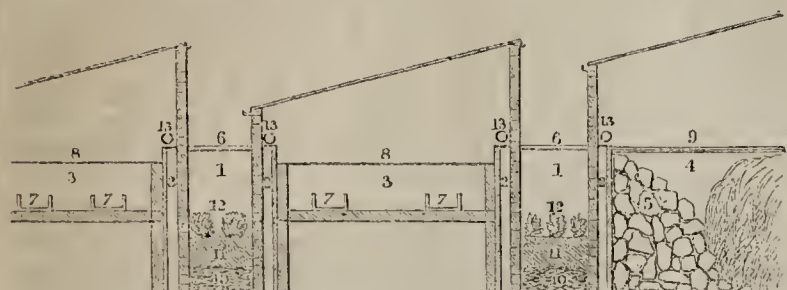
THE cumbersome and unsightly mode by which Sea-kale and Rhubarb are usually produced, viz., under masses of fermenting material in the open ground, has long appeared to me an anomaly in gardening, which not only involves a very serious expense in the production of these articles, but, from the changeable nature of our atmosphere during the winter months, the produce itself is rendered very uncertain; more especially during periods of continued wet or stormy weather. It also often occurs that over-heating is a source of much mischief, considerably damaging the leaves, and not unfrequently destroying them altogether. Many years since, whilst under-gardener in a large establishment, at my suggestion, a close dark shed at the back of a fruiting Pine-stove, and which derived a borrowed heat from that structure, was appropriated to the purpose of forcing Sea-kale and blanching winter salads, and it answered the purpose tolerably well, although in severe weather an excess of heat was sometimes unavoidable, and of a more drying nature than was favourable to a healthy development of the leaves of those esculents. The roots were removed from the open ground and planted in a bed of mould some eight or nine inches in thickness on the floor of the shed, and no further care was required than occasionally to sprinkle the walls and floor of the building, so as in some measure to counteract the drying nature of the heat proceeding through the wall of the Pine-stove. Since then I have resorted to many expedients in the production of Sea-kale and Rhubarb, such as forcing in dark frames, on the floors of Vineries and the Mushroom-house, and occasionally potting the roots and forcing them in the Pine-stove—preferring, in short, almost any mode of cultivation to the antiquated one of forcing with pots and manure in the open ground during the depth of winter, the only conditions necessary in these operations being to secure a sufficiency of heat and complete darkness, so as at once to insure a vigorous growth, perfectly blanched.

The system, however, which I have practised here for a series of years is at once so economical and well suited for the purposes alike of forcing Rhubarb and Sea-kale, or the blanching of Endive or other salads, as at once to do away with (at least in my case) all other plans or expedients by which these vegetables had hitherto been produced.

In a quadruple range of forcing-pits (of which the annexed section of a part of them will convey an accurate idea) the pits are situated two feet apart from each other, and were formerly heated by dung linings in the intervening spaces, which were closely covered over with wooden shutters: the latter rested on cast-iron bearers, and formed at once a walk between the pits and a means of preventing the escape of heat from the dung underneath; they also kept it from being chilled by the action of the weather. But as this system has been given up for the more modern and ready one of applying the heat in chambers underneath the beds, these lining-pits have been rendered useless for their original purpose, and I have since then applied them very successfully to the forcing of winter vegetables. They do not require any special heating, for a sufficiency of warmth is generated through the walls of the adjacent chambers. A covering of straw during periods of severe frosts is added; but this is more a precautionary measure than one of necessity. These pits are four and a half feet in depth. In the bottom of them a layer of brushwood is placed, so as to enable the heat to penetrate more readily under the roots, and to allow any excess of moisture to drain off effectually; the roots are then removed from the open ground with the usual care, and planted on a bed of mould

which had been used in the previous season in the growth of Melons, and which had since been stored from the inclemency of the weather, to prevent it from being over-saturated with moisture. No care is required further than to attend to keeping up a proper succession, and to remove

the roots which have ceased producing. If strong roots have been employed two cuttings will be readily obtained from them. No watering is required, the genial warmth proceeding from the adjacent chambers supplying a sufficiency of moisture.



Section of a portion of the quadruple range of forcing-pits at Basing Park, illustrative of the mode of forcing winter vegetables.

Description of Plan.

- | | |
|---|--|
| 1. Pits which were formerly used for fermenting material. | 7. Hot-water troughs on bearers. |
| 2. Flue into which the steam from the lining-pits formerly passed. | 8. Slate bottom to the bed one inch thick. |
| 3. Hot-water chamber. | 9. Wooden bottom to allow the dung steam to pass into the bed. |
| 4. Dung chamber. | 10. Brushwood. |
| 5. Large flints, placed for the purpose of contracting the chamber. | 11. Mould. |
| 6. Wooden covers of inch-thick larch board resting on cast-iron bearers and | 12. Vegetables. |
| | 13. Hot-water pipes. |

The conditions necessary for carrying this plan into full operation are the supply of a sufficient quantity of strong roots of the articles to be forced. The roots of Sea-kale I usually replant and force again in the second season. A considerable number are, however, annually destroyed; but a proper succession is kept up by raising a bed of seedlings both of Kale and Rhubarb on well-prepared ground every season.

I usually commence forcing early in October, and leave off when cutting in the open ground commences, the blanching of which has been effected under a covering of leaves in a semi-decayed state.

These pits are also well adapted for the protection of late vegetables, such as Lettuce, Cauliflowers, and Endive, when taken from the ground in a state nearly fit for use. When employed for that purpose the covers are removed, and they are only partially replaced when severe frost is apprehended.—*Horticultural Society's Journal*.

CULTURE OF TEA IN INDIA.

In no country within the world-wide dominion of this country have improvements progressed so slowly as in India. The reason for such torpidity is not to be found in the heat of its climate, for it is hot, but not enervating; and, besides, there are in Hindoostan many absolutely cold districts. But the reason is afforded by the fact, that Europeans have gone thither to realise rapidly a fortune, and then to "go home." India was not their home, and they did not care to risk the delay which might arise in seeking for new sources of wealth; they were rather anxious to gather rupees from old official emoluments, old accustomed fees, and the equally remunerative chests of the Opium and Indigo fields.

No one but those who witnessed the struggle can appreciate the cold neglect with which the propositions to introduce better Cotton and to establish Tea culture in India were met.

Let us confine our attention to Tea on the present occasion, and begin by observing that this is no trivial object of cultivation. Nearly 71,000,000 lbs. of it were imported into England in 1853, and nearly 86,000,000 lbs. in 1854; and there is no reason why this enormous amount of vegetable produce should not be grown in India, and thus the money we pay for it be transferred to our brother subjects instead of to the Chinese.

Now, let us trace the progress of its cultivation in India.

In 1815, Colonel Salter was well acquainted with the Tea of Assam, that was brought to the Rungpore market in a manufactured state. Three years subsequently, the Hon. Mr. Gardner, our resident at the Nepalese court, sent flowers and ripe fruit of the Tea plant to Dr. Wallich; and by the latter they were forwarded to Sir Joseph Banks. In 1822, Dr. Gerard and others reported that more than one species of Tea was indigenous to India, but it was not established whether these were not of the genus *Camellia*.

But in 1823—24 and 1825, the late Mr. Scott (well known as a naturalist in India) wrote to Dr. Wallich, stating, decisively, that the Assam Tea shrub is the true *Thea*, and sending a drawing, &c., of the seed capsule. Mr. Swinton got part of a boat-load of Tea plants from Assam early in 1826; similar Tea plants were received in the Botanic Garden from Mr. Scott in 1827. Major Veitch, at Lucknow, sent to Assam for some in the same year. Major Bruce, who died in 1825, was so aware of the value of the plant that, in his 'Calendar,' he stated the period for collecting the seedlings and seeds. Major Wilcox knew of the plant's existence at that time, and states his reasons for

believing that Major Bruce and Mr. Bruce were those who first sent plants and seeds to Mr. Scott—that is, in 1823; and Mr. Bruce himself states, he obtained a canoe full of the plants, about 1826, from the same native from whom his brother obtained two plants in exchange for a musical snuff-box. Soon after, Captain Neufville, and almost every one else in Assam, possessed them; and when Dr. Wallich was there, in 1836, he found every one asserting that Major and Mr. Bruce were the first European discoverers of the plants in Assam.

In 1832, Captain Jenkins was appointed by Government to survey Assam, and he furnished an official report of the localities where the Tea plant had been found. Earlier in the same year, Captain Charlton wrote many particulars relative to the plant in a letter to Dr. Tytler. But nothing for rendering Tea an article of Indian commerce was effected until Lord W. Bentinck, in 1834, recorded a minute, recommending 'measures for introducing the cultivation of the Tea plant within the British possessions in India.' Dr. Wallich visited Assam, and reported very fully upon its Tea localities. Government soon after commenced attempts to establish its cultivation; but, by degrees, have parted with the larger portion of their plantations to the Assam Tea Company.

Since that period the culture of Tea in Assam has advanced rapidly; and, by the exertions of Mr. Fortune, noticed by us long since, the Chinese varieties of the Tea plant and Chinese manufacturers have been introduced into that district. Yet, to show how imperfectly known are the vegetable products of India, it is only within the last twelve months that it has been discovered that the Tea plant is growing far nearer to Calcutta than at Assam. It has now been found in Sylhet, a district to the east of Calcutta, and to which it has easy access by various branches of the Burampootra river. Upon this subject we extract the following from the *Hurkara*, Calcutta newspaper, of last April the 21st:—

"We have perused a series of official papers regarding the discovery of the Tea plant in Cachar and Sylhet, the facts contained in which will, we think, be of great interest to the public. In July last, Captain Verner, the Superintendent of Cachar, reported to the Government of Bengal, not only that the Tea plant had been discovered in, but that it was indigenous to, that province. Specimens of the plant were forwarded to Dr. Thompson, of the Botanical Garden, who reported, that 'they were beyond any reasonable doubt the true Tea plant (Assam variety).'

ambitious. Still, there is not a Yellow Moss Rose forthcoming.

You must not disturb the *Belladonna* Lilies for six or seven years; and if they are in front of a wall you need not put anything over them in winter, unless you live in the north. How could you ask us to tell you about the keeping of a plant without telling even as much as on which side of the globe you live? A climber to flower this year must be a *Lophospermum scandens*, an *Eccremocarpus scaber*, or a large *Maurandya*; but the frost will kill them.]

CAMELLIA LEAVES DISEASED.

"Some of the leaves on my Camellia plants turn partly yellow and partly blotched, and drop off. Can you make me acquainted with a cure?—J. W., *Lynn*."

[Your Camellias are in a very bad state at the roots; the soil, soddened by a defective drainage, caused the roots to perish and the leaves blister and fall off for want of nourishment. The plants will take a long time to recover. The only safe remedy is to shake off as much as possible of the old soil from the roots, to trim off the decayed ends, and to repot them in as small pots as the roots can be got into, using nothing but loam and sand, say one-fifth sand. Then prune the bad shoots to healthy green leaves, and set the plants in a close pit—the heat of the sun will be enough for them—but keep the pit damp, and shade from the sun. Give them this treatment for two months, and after that give them more air and light, and as the winter approaches keep them as cool as possible; and when they begin to grow next spring give them a small shift into stronger loam, or loam with less sand than that last given.]

RECTIFYING VINE FAILURES.

"In a new Vinery I have planted about thirty Vines this spring, all well headed down when planted, from each of which have sprung very excellent shoots, with the exception of about five or six of the plants, which grow very badly, and appear stunted and very bushy, with many laterals. This circumstance gives my Vinery a very gappy and unsightly appearance. Will you oblige me with some information as to the best course to pursue, so as to produce subsequent uniformity of growth as well as appearance? Would some of those which I have planted at the back of the house, and which I do not contemplate allowing to remain, bear moving, in the autumn, to the situation of the bad growers? and might they be headed down after their removal to the same height as the others, as if they had not been removed at all? I am anxious to get two good rods from each plant to proceed up the roof for bearers the following year.—A SUBSCRIBER."

[The greatest skill will not insure the desired uniformity of growth in all cases. Try what you can do this season yet, by removing most of the bushy laterals by degrees from the weak Vines, and dressing them at the roots with a little cool, rich manure; a pinch of superphosphate of lime might do them good. If they do not grow to your wish, we would advise you to do as you propose; namely, remove some of the good Vines from the back. Just as soon as you see the least trace of stagnation of growth in the autumn, take up with every root possible, water when planted, syringe the leaves, and shade to keep from flagging. Place a sash or other material over the roots of the transplanted plants to keep cold rains from them, and permit of all the sun heat acting on the soil; and if you thus ripen off the wood kindly, without the leaves being shed prematurely, which may all be done with a little attention, you may then treat these transplanted Vines the same as the others.]

SOWING COLLINSIA BICOLOR.—TIMES FOR SOWING FLOWER-SEEDS.

"Oblige 'A Beginner' by naming the enclosed flower, and by giving a list of flower-seeds and plants, to be put in this and the following months, suitable for a garden, a frame,

and the windows, all of which face the south, and are in a climate where there is scarcely any snow and not much frost."

[The flower enclosed is the *Collinsia bicolor*, a very beautiful annual, which, if sown directly, will bloom in the open air in September and October. Sown in September it will bloom in the open air in May and June. Potted in October, and kept in a cold frame all the winter, with plenty of air in favourable weather, and repotted and tied out, or pegged down as needed, it would make a fine ornament for the window from the end of March to the end of May. The *Nemophilas*, *Silenes*, *Virginian Stocks*, *Sweet Alyssum*, *Mignonette*, *Clarkias*, *Nolanas*, *Gilias*, *Annual Lupines*, *Venus's Navelwort*, *Venus's Looking-glass*, and all the *Candytufts* may be so treated, and will bloom this autumn. In the middle of September all the above and *Enocheras*, *Eutocas*, *Saponarias*, *Calliopsis*, *Callomias*, *Mimulus*, *Leptosiphon*, *Eschscholtzias*, *Limnanthes*, and *Larkspurs*, may be sown out of doors, and will bloom, if they stand the winter, in May and onwards.

Seeds may be sown next month, to be kept in a frame or window in winter, of *Verbenas*, *Chrysanthemums*, *Geraniums*, *Mesembryanthemums*, *Lobelias*, *Nolanas*, *Stocks*, *Calecolarias*, *Cupheas*, *Petunias*, *Schizanthus*, *Senecios*.

As respects plants, every hardy greenhouse plant, every plant usually planted out for bedding, if at all of any size, may yet be planted out; and cuttings of each and all of them may now be got in in a moderately exposed place, but with the means of shading at command. Gardeners will not begin to do this generally, as respects bedding plants, until next month. We have already and lately entered so much into details, that we would prefer your specifying some point on which you want information, as the term *plants* is so general, that we might write a whole number, and yet not meet your case.]

DESTROYING THE RED SPIDER.

"I have under my care a Peach-house, in which the trees are sadly infested with red spider. I shall be very grateful to any one who will inform me how to get rid of the enemy without injuring the trees, as I confess myself fairly beaten by them at present. I have tried every remedy I could think of, or had seen recommended, without the least good effect. As for sulphur on the pipes, I am persuaded it may as well be put on the outside walls for what good it will do there; at least, that is my experience in the matter. I have painted the pipes over again and again, and heated the water nearly to boiling point for hours together, and never could I find that one red spider was in the least injured by such proceedings. What shall I do in my difficulty? I cannot, for shame, give up, and leave them uninterruptedly to pursue their devouring course; and yet I know not what to be at, and shall be very much obliged, therefore, for information which shall enable me to renew the combat, and come off victorious.—WILLIAM."

["I cannot give up," is the motto of a man who is sure to succeed. If you had told us what remedies you had used, we might have been more able to advise you. We find sulphur on hot-water pipes, and also on walls outside exposed to the sun, great helps for keeping red spider down, if associated with a moist atmosphere, or a free use of the syringe. From the hot-water pipe, and from the hot open wall exposed to the sun, the sulphuretted fumes given off are what the spider does not like, and these will flit, if not kill him, when he would walk about among pieces and particles of the dry, cool sulphur as gay and as happy as a cricket. Dry heat is, of all circumstances, his delight; but an atmosphere saturated with moisture, and impregnated with sulphur fumes, is his detestation. I can well imagine that a strong heat, if not attended with corresponding moisture, might not greatly hurt the spider, even though sulphur was used. Unless in very cold weather, indeed, we can hardly see how the pipes could be heated to near boiling point, and a close, moist atmosphere be contained in the house in July, or even part of June. I have no difficulty in keeping a Peach-house clear of spider, during the growing and swelling period, merely by keeping sulphur frequently on the pipes, with evaporating pans there also, and a moderate use of the syringe.

At one end the pipes almost touch the trees, and there I get the spider, which spreads rapidly over a part of the trellis every year, when for the sake of flavour, as the fruit is getting nearly ripe, more air is given, moisture discontinued, and fires are left off about the end of May, unless in very cold weather. There being then no fires, there are no sulphuretted fumes, and even syringing with common water is not much resorted to, except just to prevent the vermin getting a-head. Stronger washes would be apt to discolour such tender fruit as Noblesses. Whenever the fruit is gathered, there is little difficulty in effecting a clearance. The house is kept rather close, and the trees are syringed several times a day with sulphur and lime-water, made by boiling a pound of quick-lime and a pound of sulphur in a gallon of water for a quarter of an hour, allowing it to settle, and pouring off the clear into a bottle, and then putting about a quart, or a little more, but not more than half a pint, into a common sized watering-pot full of water, and syringing the trees well over, above and under the leaves. The mixture will be more effectual, but not so cleanly if a little size and soft soap are added. The above is one of the most economical ways of getting the properties of sulphur at once to bear upon the insects. In extreme cases, and where syringing could not well be done, a pair of nimble hands, with a small sponge, would soon wash every leaf on a tree, and remove every insect on it. Where cleanliness was an especial object, the sulphuretted lime-water should merely have the size in it. About a quarter of a pound dissolved in a garden-pot, holding about four gallons of water, will not be too much. I have found it injurious to no plant to which I have applied it in such limited quantities; and when enough is in the water to make the stickiness just perceived, when a thumb and finger being wetted are placed together firmly, it will ease up the vital powers of every little insect to which it is applied. Even when the glue or size was used rather strong, the film formed on the leaf broke and fell off in pieces when dry. I have no doubt but that the use of size in a thus greatly reduced form will be of much advantage. As to the effects of fumes of sulphur, the experience of our correspondent and my own are quite opposed to each other, though, like him, I have found that such fumes from pipes could do little good in summer, as the house could not be kept close enough, with the application of such heat, without injuring the fruit and trees. The longer the spider has had time to establish itself the worse it is to eradicate, as an old black-skinned gentleman will require several doses, when the younger ones would be settled by one or two applications.—R. FISH.]

TO CORRESPONDENTS.

TO ESTABLISH A ROOKERY.—If *P. P.*, page 264, can manage to keep his tame rooks until spring, allowing them to hop about on low trees near the intended rookery, on which there should be placed some old rooks' nests, to encourage them to take possession of in spring, and when once the young ones are reared the object is obtained. A few old nests fixed on the top of the higher trees may not only encourage both old and young to stop, but bring other strange rooks to the place. In short, we have known rookeries commenced by this simple plan.—J. W.

MUDDY WATER IN A NEW POND (*A Subscriber from No. 1*).—If the sides of your pond are perpendicular, the falling in of the earth will make the water muddy. In such a case, slope down the sides, and cover them and the bottom of the pond with some clean gravel.

BEES LEAVING THEIR HIVE (*A Constant Subscriber*).—The very fact that another swarm, put into a similar hive at the same time, remained and filled it with comb, shows the hive is not at fault. Bees are capricious; another swarm will probably remain in the hive.

CALCEOLARIAS (*Z. Z.*).—Your seedling Calceolarias are very excellent, and as you say they are half-shrubby, that is a greater recommendation to them. Such flowers, with a more durable constitution than the herbageous varieties, will be a great accession to florists.

SEEDLING SCARLET GERANIUM (*G. A.*).—Your seedling seems a very fine kind—a deeply-marked Horse-shoe Scarlet, with sixty-eight flowers in the truss; but the specimen will not yield us a single open flower, to judge of the face and brilliancy of the truss, so difficult is it to get these Scarlets to travel; but we shall root the cutting, and depend on it, the plant will be as safe in the Experimental as with yourself. In future, however, be not so liberal, and do not send a cutting of a valuable seedling to all the judges.

VARIOUS (*B. Johnson*).—Want of light is probably the cause of the failure of your Scarlet Runners against the back wall of your greenhouse. Kidney Beans require to be grown close to the glass. Water from a brook does not require the same exposure to the air as well-water does before being used for watering purposes. Rain-water does not become foul and filmy, unless kept in wooden or other reservoirs, that give out decomposing extracts.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

ANERLEY. July 29th, 30th, 31st, and August 1st. *Sec.*, C. Lawson, Esq., Anerley. Entries close July 9th.

BRIDLINGTON. August 27th. *Sec.* Mr. T. Cape, Bridlington.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. *Secs.* G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. Nov. 26th and 27th. *Sec.*, E. Trinder, Esq., Cirencester. Entries close Nov. 1st.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. *Secs.* for poultry, J. H. Peek, and J. S. Marshall, Esqrs. Entries close July 24th.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. *Sec.*, Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. *Sec.*, John Spencer, Nottingham.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. *Sec.*, J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

ESTIMATE OF VARIETIES.

APART from anything in the poultry pursuit that may be denominated fancy, which has been defined as that which has no real utility, it is a curious study to note how the most useful breeds have made their way, and vindicated the opinions of those who were their advocates. Another point worthy of notice is the knowledge of the merits of the different breeds, which has been acquired principally by intercourse between amateurs, and which has been begun at Exhibitions. Soils and situations have also been carefully studied, with a view of locating on them the breeds most suited to their properties or capabilities.

Thus the man living in a town has found *Cochins* his most profitable breed, and some of the best birds ever bred, and the most successful, the pioneers of those that made large prices, were bred in a town, in a small stable-yard. *Spanish*, again, are found to bear confinement well. Both these breeds are excellent layers, but the *Cochin* will carry the palm as the best layer in the winter. It is no small pleasure for the wearied and harassed citizen to cultivate and partake of the produce of his own poultry-yard. Insignificant as it is, it is a break in the monotony of his business life; and it foreshadows the time when, if his day-dreams are realised, he will eat his home-grown vegetables and fruit before the natural season, and, it may be, feed his own mutton.

Polands, which were formerly considered mere playthings, or, as the Pigeon breeders term certain breeds, "Toys," are now found to be excellent layers, and many of them very hardy birds. *Hamburgs* of all sorts are known and appreciated as giving a large return, in the shape of eggs, for the small amount of food they consume.

In whatever breed it may be, a bird of unusual merit is sure to make a price as much above the ordinary as can be justified by its excellence.

Almost universal consent has awarded the title of farmer's fowl to the *Dorking*, and Nature seems to have intended it, as it requires the space and mode of living which belong to the farm, but is difficult and expensive for any one else to give. Agricultural Societies and patrons are not slow to encourage the truth. The Royal Agricultural Society places them at the head of the list, and we are pleased to hear a Silver Cup, of the value of ten guineas, open to all England, will be given at the Dorchester Show, by H. Sturt, Esq., for the best pen of these birds.

TO EXHIBITORS AT THE LAST SHREWSBURY POULTRY SHOW.

BROTHER VICTIMS, what are we to do to those honourable gentlemen, the Shrewsbury committee? Can anything exceed the effrontery with which they have carried out their seeming scheme? They advertised a liberal prize-list, obtained

the names of the leading noblemen and gentlemen of the county, got a number of poultry fanciers to send their birds, awarded the prizes, sold as many birds as possible, and then (using a sporting phrase) bolted. Yet these men are allowed to send their poultry to other Shows the same as any one else. Now, I propose this:—Brother Victims, form yourselves into a body, and proceed by law against each separate member of the Shrewsbury Poultry Show committee; and if the law orders not payment of our rights, then let us publicly advertise them in all parts of England. Shut them out from our Shows; in fact, serve them as defaulters. By, and only by, such means shall we keep these disgraceful proceedings from our poultry records. This is my plan. If any of you will give your plan, with the leave of Mr. Editor, let us have it next week.—A BROTHER VICTIM.

EXHIBITION OF POULTRY AT THE ARBORETUM, AT LEAMINGTON.

THE first annual Exhibition of Domestic Poultry commenced in the above grounds on July 8th. Mr. Joseph Jennens, of Balsall Heath, Birmingham, officiated as Judge. The Show, considering the season of the year, was pronounced to be excellent in every department; and, as an inaugural effort, will, no doubt, be stimulative of increased exertions another year.

The prizes were awarded as follows:—

SPANISH.—First, Mr. Thomas Clulee, Summer Lane, Birmingham. Second, Mr. Jos. Whittington, Wootton Waven. Third, Miss France, Lillington, Warwick. Commended.—Mr. W. Kellet, Nelson Street West, Birmingham. Mr. T. Clulce, Summer Lane, Birmingham.

COLOURED DORKING.—First, Mr. Joseph Smith, Henley-in-Arden. Second, Mr. Hanbury, Leamington. Third, Mr. John Chatterton, Islington, Birmingham. Commended.—Mr. William Mander, Oaks, Kenilworth. Rev. George Hustler, Appleton, Tadcaster. Rev. Edward H. Kittoe, Old Chester Road, Erdington, Birmingham.

GAME (White and Piles).—First, Mr. Fred. Sahin, Bull Street, Birmingham. Second, Mr. Henry Shield, Preston, Rutland. Third, Mr. Fred. Sahin, Bull Street, Birmingham.

GAME (Black-breasted and other Reds).—First, Mr. E. Glover, Olton Green, Solihull. Second, Mr. John Mallaby Baker, Dordon Hall, Atherstone. Third, Mr. Henry Shield, Preston, Rutland. Commended.—Richard Rawlins Hicks, Esq., Woodcote, Warwick. Robert Pickthall, Esq., Mint House, Kendal. Mr. W. Ballard, Leamington. Messrs. Bullock and Rapson, Leamington.

GAME (Duckwings and other Greys and Blues).—First, Mr. Thomas Clulee, Birmingham. Second, Mr. Edward Payton, Solihull. Third, Mr. J. Morgan, Green Lanes, Birmingham.

GAME (Black and Brassy-winged, except Greys).—First, Mr. W. Vickerman Drake, Lockwood, near Huddersfield. Second, Mr. Matthew Ridgway, Dewsbury, Yorkshire. Third, Mr. Charles Hopkins, Newton Regis, near Tamworth. Commended.—Mr. Dawson, Selly Oak, near Birmingham, and Mr. W. Dester, Seckington, near Tamworth.

COCHIN-CHINA (Cinnamon, Buff, and Lemon).—First, Mr. John Chatterton, Islington, Birmingham. Second, Mr. Thomas Ross, Carver Street, Birmingham. Third, Mr. Henry Tomlinson, Balsall Heath Road, Birmingham. Commended.—Mr. Parkins Jones, High Street, Fulham.

COCHIN-CHINA (Brown, Grouse, and Partridge).—Third, Mr. James Cattell, Moseley Wake Green, near Birmingham.

COCHIN-CHINA (White and Black).—First, Mr. R. Chase, Moseley Road, Birmingham. Second and Third, Mr. J. K. Fowler, Prebendal Farm, Aylesbury.

BRAHMA POOTRA.—Third, Mr. C. R. Titterton, Snow Hill, Birmingham.

HAMBURGHS (Golden-pencilled).—First, Mr. J. Worsey, Lower Clopton, Stratford. Second, J. Kilvers Bartrum, Esq., Richmond Hill, Bath. Commended.—Mrs. John Worsey, Lower Clopton, Stratford.

HAMBURGHS (Silver-pencilled).—First, Mr. William Endall, Henley-in-Arden. Second, Mr. E. Taverner, Hartshill, near Atherstone.

HAMBURGHS (Gold-spangled).—First, Mr. R. Lane, Bristol Road, Birmingham. Second, Mr. W. Toney, Soho Works, near Birmingham.

HAMBURGHS (Silver-spangled).—First, Mr. T. B. Wright, Great Barr, near Birmingham. Second, Mr. G. C. Adkins, Edgbaston, Birmingham.

POLAND (Black, with White Crests).—First, Mr. W. Dawson, Selly Oak, Birmingham. Second, Mr. G. C. Adkins, Edgbaston, Birmingham. Third, Mr. T. Panton Edwards, Lyndhurst, Hampshire.

POLANDS (Golden-spangled).—Second, Miss Steele Perkins, Sutton Colefield. Third, The Countess Dowager of Macclesfield, Eynsham Hall, Witney, Oxon.

POLANDS (Silver-spangled).—First, Mr. Geo. C. Adkins, Edgbaston, Birmingham. Second, Mr. Parkins Jones, High Street, Fulham. Third, Mr. John Hill, Selly Oak, Birmingham.

MALAY.—First, T. Squire, Esq., Mildenhall.

ANY OTHER DISTINCT BREED.—First, Mr. Geo. Dawes, Buckley Green, Henley-in-Arden. (Andalusian.) Second, The Countess Dowager of Macclesfield, Eynsham Hall, Witney, Oxon. (Japan Silky Fowl.) Second, Miss Steele Perkins, Sutton Colefield. (Game Bantams.) Third, Mr. C. Coles, Fareham, Hants. (Andalusian.)

CLASSES FOR SINGLE COCKS.

DORKING.—Mrs. Hanbury, Thorn Bank, Leamington.

SPANISH.—Mr. Francis Leedam, Burton-upon-Trent.

COCHIN-CHINA.—F. E. Gibbs, Esq., Bridge End, Warwick.

PENCILLED HAMBURGH.—Mr. John Marshall, Belmont, Taunton.

GAME (White and Piles).—Mr. William Ballard, Leamington.

GAME (Black-breasted and other Reds).—Mr. William Ballard, Leamington.

GAME (Duckwings and other Greys and Blues).—Mr. E. Taverner, Hartshill, near Atherstone.

POLAND.—E. Whithrop, Esq., Lydiard, Swindon, Wilts.

BANTAMS (Gold-laced).—First, Rev. G. F. Hodson, North Petherton, near Bridgewater. Second, the Countess Dowager of Macclesfield, Eynsham Hall, Witney, Oxon.

BANTAMS (Silver-laced).—First, Mr. W. Bromley, Smithfield, Birmingham. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater.

BANTAMS (White).—First and Second, Mr. G. C. Adkins, Edgbaston, Birmingham.

BANTAMS (Black).—First, Miss Mary Horton, Bradford Street, Birmingham. Second, Mr. Matthew Ridgway, Dewsbury, Yorkshire.

DUCKS (White Aylesbury).—First, Mr. J. K. Fowler, Prebendal Farm, Aylesbury. Second, Mr. John Lane, Goodrest, Warwick.

DUCKS (Rouen).—First, John Marshall, Esq., Taunton, Somerset. Second, Mr. John K. Fowler, Prebendal Farm, Aylesbury.

DUCKS (any other Variety).—First, Miss Steele Perkins, Sutton Colefield. Second, John Beasley, Esq., Brampton, Northamptonshire.

GESE.—First, Mr. J. K. Fowler, Prebendal Farm, Aylesbury. Second, Mr. John Mallaby Baker, Dordon Hall, Atherstone. Commended.—Mr. W. Franklin, Offchurch, Warwick.

PIGEONS.—Carriers.—Mr. G. C. Adkins, Edgbaston, Birmingham. **Barbes.**—Mr. A. P. Pressdee, Belgrave Street, Birmingham. **Pouters.**—Mr. G. C. Adkins, Edgbaston, Birmingham. **Runts.**—Mr. Edward A. Lingard, Birmingham. **Fantails.**—Mr. A. P. Pressdee, Belgrave Street, Birmingham. **Jacobines.**—Mr. George C. Adkins, Edgbaston, Birmingham. **Turbits.**—Mr. George C. Adkins, Edgbaston, Birmingham. **Nuns.**—Mr. George C. Adkins, Edgbaston, Birmingham. **Archangels.**—Mr. George C. Adkins, Edgbaston, Birmingham. **Trumpeters.**—Mr. George C. Adkins, Edgbaston, Birmingham. **Almond Tumblers.**—Mr. George C. Adkins, Edgbaston, Birmingham. **Dragoons.**—Mr. C. R. Titterton, Birmingham.

ROYAL AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE Royal Agricultural Society's Show, which occurred this year at Chelmsford, from the 14th to the 19th instant, was about the best country Exhibition that has hitherto been held by that admirably-conducted Society. The poultry portion of the Exhibition, however, was limited as to numbers, and not generally meritorious in quality. We shall give a more lengthy commentary next week.

DORKING FOWLS.—Chickens of 1856.—First, Captain Hornby, R.N., Knowsley Cottage, near Prescott, Lancaster. Second, the Rev. Thos. Lyon Fellowes, Beighton Rectory, near Acle, Norfolk. Third, George Godfrey, Aylesbury, Bucks. Fourth, James Frost, Parham, near Woodbridge, Suffolk. Highly Commended.—James Frost, Parham, near Woodbridge, Suffolk. Reserve.—G. Botham, Wexham Court, Slough, Bucks.

DORKING FOWLS (more than one year old).—First, Captain W. Hornby, R.N., Knowsley Cottage, near Prescott, Lancaster. Second, G. Botham, Wexham Court, near Slough, Bucks. Third, William Tod, Elphinstone Tower, near Tranent, Haddington. Fourth, the Rev. Morton Shaw, Rougham Rectory, near Bury St. Edmunds. Reserve.—Henry Handy, Hacheston, near Woodbridge, Suffolk.

DORKING COCKS (of any age).—First, Edward Akroyd, Denton Park, near Otley, York. Second, William Fisher Hobbs, Boxted Lodge, near Colchester. Reserve.—William Fisher Hobbs, Boxted Lodge, near Colchester.

SPANISH FOWLS.—First, Captain Hornby, R.N., Knowsley Cottage, near Prescott, Lancaster. Second, Rev. Morton Shaw, Rougham Rectory, near Bury St. Edmunds. Third, John Buncombe, Wellington, Somerset. Fourth, Thomas Stubbings, Broomfield, near Chelmsford, Essex. Reserve.—Donald C. Campbell, M.D., Essex Lunatic Asylum, near Brentwood.

SPANISH COCKS (of any age).—Prize, Rev. Morton Shaw, Rougham Rectory, near Bury St. Edmunds. Reserve.—James Dixon, North Park, Horton, near Bradford, York.

COCHIN-CHINA FOWLS.—Chickens of 1856.—First, Mrs. M. Parker, Coatslaith, near Brampton, Cumberland. Second, Rev. G. F. Hodson,

North Petherton, near Bridgewater, Somerset. Highly Commended.—Thomas Burnett, Hutton, near Preston, Lancaster. Commended.—Charles Punchard, Blunt's Hall, near Haverhill, Suffolk. Reserve.—Thomas Burnett, Hutton, near Preston, Lancaster.

COCHIN-CHINA FOWLS (more than one year old).—First, Charles Punchard, Blunt's Hall, near Haverhill, Suffolk. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater, Somerset. Highly Commended.—Rev. T. H. Roper, Eton, near Windsor. G. C. Adkins, West House, Edgbaston, near Birmingham. Commended.—Miss Caroline Christy, Brownings, near Chelmsford. Richard Postans, Shelly Stoke-by-Nayland, near Hadleigh, Suffolk. Reserve.—Thomas Burnett, Hutton, near Preston, Lancashire.

COCHIN-CHINA COCKS (of any age).—Prize, Thomas Hincks, Pennfield, near Wolverhampton, Stafford. Reserve.—Rev. G. F. Hodson, North Petherton, near Bridgewater, Somerset.

BRAHMA POOTRA FOWLS.—Prize, Richard Postans, Shelly Stoke-by-Nayland, near Hadleigh, Suffolk.

GAME FOWLS.—First, Captain Hornby, R.N., Knowsley Cottage, near Prescott, Lancaster. Second, Edward Glover, Olton Green, near Solihull, Warwickshire. Third, G. C. Adkins, West House, Edgbaston, near Birmingham. Reserve.—N. N. Dyer, Manor House, Bredon, near Tewkesbury.

GAME COCKS (of any age).—Prize, N. N. Dyer, Manor House, Bredon, near Tewkesbury. Reserve.—Rev. Thomas Lyon Fellowes, Beighton Rectory, near Acle, Norfolk.

HAMBURGH FOWLS (Golden-pencilled).—First, John Lowe, Bull Ring, Birmingham. Second, James Dixon, North Park, Horton, near Bradford, York. Reserve.—Rev. Thomas Lyon Fellowes, Beighton Rectory, near Acle, Norfolk.

HAMBURGH FOWLS (Silver-pencilled).—First, James Dixon, North Park, Horton, near Bradford, York. Second, Rev. Thomas Lyon Fellowes, Beighton Rectory, near Acle, Norfolk. Reserve.—G. Botham, Wexham Court, near Slough, Bucks.

HAMBURGH FOWLS (Golden-spangled).—First and Second, James Dixon, North Park, Horton, near Bradford, York. Reserve.—G. C. Adkins, West House, Edgbaston, near Birmingham.

HAMBURGH FOWLS (Silver-spangled).—First, James Dixon, North Park, Horton, near Bradford. Second, W. B. Mapplebeck, Bull Ring, Birmingham. Reserve.—James Dixon, North Park, Horton, near Bradford.

MALAY FOWLS.—Prize, John Buncombe, Wellington, Somerset.

POLAND FOWLS (Golden Polands).—First and Second, R. H. Bush, Ashton Lodge, near Bath. Reserve.—Charles Edward Coleridge, Eton, near Windsor.

POLAND FOWLS (Silver Polands).—First, Charles Edward Coleridge, Eton, near Windsor. Second, G. C. Adkins, West House, Edgbaston, near Birmingham.

POLAND FOWLS (any other Variety).—First, G. C. Adkins, West House, Edgbaston, near Birmingham. Second, Charles Edward Coleridge, Eton, near Windsor.

TURKEYS.—Rev. Thomas Lyon Fellowes, Beighton Rectory, near Acle, Norfolk.

AYLESBURY DUCKS.—First, Second, and Third, John Weston, Oxford Road, Aylesbury, Bucks. Reserve.—Rev. Thomas Lyon Fellowes, Beighton Rectory, near Acle, Norfolk.

ROUEN DUCKS.—First, John Weston, Aylesbury, Bucks. Second, Rev. Thomas Lyon Fellowes, Beighton Rectory, near Acle, Norfolk. Third, Charles Punchard, Blunt's Hall, near Haverhill, Suffolk.

DUCKS (of any other Variety).—First, James Dixon, North Park, Horton, near Bradford, York. William Fisher Hobbs, Boxted Lodge, near Colchester. Reserve.—William Tod, of Elphinstone Tower, near Tranent, Haddington.

ANERLEY SHOW.

The Anerley Show of this season, opening on July 29, promises to be even more attractive to visitors than that of last year. Nearly all the most celebrated breeders have entered pens, and although the high price of the entrance fees has kept away inferior birds, the numbers have not diminished.

When all the best known names are in the catalogue it would be invidious to particularise.

In Pigeons the Show promises to be remarkably strong, and to include Arabian Laughing Pigeons and many other novelties; several new varieties of poultry are entered; a well-known noble exhibitor promises a new variety of Cochin. Some Polands are to appear which are reported to surpass any that have ever been exhibited. Crève Cœurs, both old and young birds, are represented. Another new variety, that of White Rumpless Polands, makes its *début*; and "the lost pleiad," the Black-crested White Poland, it is said, is also to emerge from the obscurity in which it has long been hid.

Altogether the Show promises to be most successful, not only in the number of entries, but also in the high class of birds that are entered.

THE HOUSEHOLD.

COMBS.—To polish tortoise-shell combs, make a paste of jeweller's rouge and a little sweet oil. Put it on the comb, and when quite dry brush it off. Then polish the comb with wash-leather. In some cases this will restore polish. The use of sal volatile, instead of sweet oil, is recommended for mixing with the jeweller's rouge in forming the paste.

CHILBLAINS.—To cure chilblains, simply bathe the parts affected in the liquor in which potatoes have been boiled, at as high a temperature as can be borne. On the first appearance of the ailment, indicated by inflammation and irritation, this bath affords almost immediate relief. In the more advanced stages, repetition prevents breaking out, followed by a certain cure; and an occasional adoption will operate against a return, even during the severest frost.

WATERPROOF CLOTH.—For waterproof cloth, a saturated solution of water, sugar of lead, and alum, being prepared, the cloth should be immersed in the fluid for a few hours; on withdrawing it, and allowing it to dry, it will be found impervious to rain. The cloth should afterwards be hot-pressed.

TO MAKE BLACKBOARDS.—An appliance for blackboards can be made by boiling 1lb. of logwood in water enough to cover it, and adding half an ounce of green vitriol. This is superior to paint, as it stains the wood, and will not wear off, dries in a few minutes, and bears no gloss.

TO CARVE A FORE-QUARTER OF LAMB.—I have seen many a father of a family at a loss how to carve this joint. I will, therefore, as concisely as possible, describe the way it ought to be done. When the joint is sent to table, which it should be without too much gravy, have ready half a lemon, half an ounce of fresh butter, and some Cayenne pepper; place the fork near the upper part of the shoulder, then cut the shoulder off by beginning with the knife under the shank-bone, gradually bringing it round so as to make a good-sized shoulder; then lift it up, and place between that and the ribs the butter, squeeze the lemon over it, add the Cayenne, not too much, and a tea-spoonful of salt; replace the shoulder until the butter is melted, then remove it to another dish, and cut up the ribs with the brisket, serving part ribs and brisket to each person. I have heard a tale, attributed to the celebrated Dr. Sam. Johnson, that on one occasion, seeing the above process done, he quietly took out his snuff-box, and sprinkled it with snuff, and being asked his reason, said that he preferred that to pepper; and before any one thought of *doctoring* a joint, he should ask the company present if they all approved of it. Young lamb generally requires flavour: that is the reason why mint-sauce is taken; but lemon is decidedly better for warm lamb than vinegar; and the palate must be very fastidious that would not like it as the above.—W.

A METHOD OF TAKING IMPRESSIONS OF LEAVES, &c., BY MEANS OF LIGHT.

By MR. H. R. WEBB.

In bringing this subject before you, I am not going to introduce any new appliance of the photographic art, but thinking the taking impressions of leaves, Ferns, &c., and multiplying them to almost any extent, may be useful to many who take an interest in botanical pursuits, I have determined on submitting this paper to your consideration.

An explorer who may find a new rare plant, and wishing to distribute impressions of its leaves, can on the spot take an exact representation, and print from it, by the process I shall suggest, at his leisure, the apparatus taking up but very little room; nor will he have to encumber his herbarium, for the generality of leaves can be taken on a quarter or half sheet of letter-paper, the impression possessing the advantage over a dried specimen of not in any way losing its natural shape.

Or, for instance, if we wished to disseminate an exact representation of a leaf or frond of any plant we may have sent us for inquiry, it would often be injurious to deprive it of its foliage—the taking of one leaf would be suf-

ficient to form a base from which five hundred to one thousand copies, exact to nature, and taken by its aid, could be distributed to any part of the world, even in a letter; indeed, botanical works might be illustrated and embellished in this way.

The effect produced is caused by the decomposition of certain chemical substances, acted on by light, the principal being nitrate of silver. I may not be out of place in mentioning that the juices of some plants have been found to darken on exposure to light, also that several of the substances used in photography derived from vegetable bases, such as iodine, gallic acid, &c.

I will, with these remarks, proceed to give the methods found to answer best. The first impression taken will be what photographers call a "negative," having the lights and shades reversed to what they are in nature, on account of the paper being darkened. Wherever the light has the greatest effect, the veins of a leaf will be black and the tissue white. This is the matrix from which the other impressions are taken, which will be found exact to nature, having the lights and shades, or lights and darks, correct.

It is necessary that no light intervene between the object to be copied and the paper, to avoid which will be required a pressure frame (the only apparatus wanted), or a sheet of plate glass, kept down on a board by means of weights, will answer the purpose; but a pressure frame will be found the most convenient, which is in the power of almost any one to construct. All that is required is a frame, about eleven inches by seven inches, having a rim of wood glued round it, projecting sufficiently to retain a piece of plate glass, cut so as to fit nicely into the frame; a board about a quarter of an inch thick fitting also into the frame, with two pieces of wood crossing the frame, and going into holes cut on the opposite side: these are moveable. The mode of using it is to place the glass into the frame first; then the leaf or frond to be copied, the prepared paper backed with a few sheets of white blotting or bibulous paper; then the board, which will be kept in its place by means of two wedges pressing against the two cross pieces.

The paper that will be found to answer best is a moderately thick *wove* letter-paper, having no specks or colouring matter in it—for it must be remembered that all imperfections are copied; nor must the half-sheet having the water-mark on be used for a negative. Either Turner's or Whatman's yellow *wove* post will answer; these can be obtained at any of our stationers. The chemicals wanted are muriate of ammonia, nitrate of silver *in crystals*, hyposulphite of soda, chloride of gold, and chloride of silver.

FIRST OPERATION.—Make a solution of muriate of ammonia with distilled water, twenty grains to the ounce. Pour about five or six ounces of this solution into a flat dish, sufficiently large to float the paper, cut to the required size; allow it to float on this for two minutes, taking care to avoid air bubbles, and pin each paper up by a corner to dry.

SECOND OPERATION.—Make a solution of nitrate of silver with distilled water, sixty grains to the ounce. Pour four or five ounces into a dish, and allow the paper to float on it for about five minutes, then suspend by a corner to dry. This operation must be performed by candle-light; if in the day-time, it will be necessary to darken the room by means of a cloth hung against the window, of sufficient thickness to exclude the light. This paper must always be kept from the light.

THIRD OPERATION.—Place the object to be copied with the paper in the pressure frame (this must be done in a darkened room); when the paper and object are properly adjusted, place them in the light, the stronger it is the quicker the operation. The time of exposure will be easily determined by a few experiments.

FOURTH OPERATION.—To colour the picture, that is, to deepen its tones, use clean water 8 ozs., hyposulphite soda $1\frac{1}{4}$ ozs., chloride of gold 5 grs., chloride of silver 30 grs.; it is not necessary to perform this operation with the negative.

FIFTH OPERATION, WHICH FIXES THE PICTURE.—Hypsulphite of soda, $\frac{1}{4}$ lb.; clean water, 8 ozs. Let it remain in this from five minutes to a quarter of an hour, then soak it in clean water for a quarter of an hour, and dry. To print from this, substitute the picture for the leaf, or frond, and conduct the operations over again; that is, placing the pic-

ture on a sheet of paper prepared with the solutions mentioned in the first two operations; attach the papers together with a portion of wafer or a little gum, by which means the papers can be taken out, the printing watched, and stopped when sufficient intenseness is obtained. The above processes will be found very simple; the main thing to be observed is cleanliness.

In conclusion, I may remark that the beautiful art of photography has been applied of late to the taking representations of objects seen through the microscope at their magnified size: this will give us an opportunity of studying microscopic botany, and seeing to a greater extent the hand of the Almighty in His most minute works.

OUR LETTER BOX.

SILVER AND GOLD PHEASANTS (J. T. C.).—Under these initials your query was answered last week. We inquire for replies of the best authorities, and our correspondents must wait for replies from those authorities. It is useless for any of us to be impatient.

LONDON MARKETS.—JULY 21ST.

COVENT GARDEN.

The continued favourable weather brings us an abundant supply of *Fruits and Vegetables*, all in excellent condition, the small-seeded fruits particularly so, and very reasonable. We have this week had some excellent *Green Gages* from the south of France, all other importations having ceased for a time. The first cargo of *West India Pines* has also come to hand, but, having been a considerable length of time on the passage, are not in very prime condition; others may shortly be expected. *Potatoes* plentiful.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz.....	6d. to 9d.
"dessert	12s. ,, 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen	1s. ,, 3s.	Potatoes, per cwt. . .	3s. to 6s.
Peaches, per doz.	10s. ,, 20s.	" Frame, per lb. 6d. ,, 0d.	
Nectarines, do.	10s. ,, 20s.	" New, per lb. . .	2d. ,, 4d.
Pine-apples, per lb. . .	6s. ,, 10s.	Onions, Y'ng, per b'nch.	4d. ,, 6d.
Hothouse Grapes, per lb. 3s. ,, 6s.		" Old, per bushel	5s. ,, 7s.
Strawberries, per lb. 3d. ,, 1s.		Turnips, per bunch..	9d. ,, 1s.
Foreign Melons, each 2s. ,, 5s.		Leeks, per bunch	2d. ,, 3d.
Wall Cherries, per lb. 1s. to 1s. 6d.		Garlic, per lb.	6d. ,, 8d.
Cherries, per lb.	6d. ,, 1s.	Horseradish, per	
Oranges, per 100	4s. ,, 10s.	bundle 1s. 6d. to 2s. 6d.	
Seville Oranges, do. . .	6s. ,, 12s.	Shallots, per lb.	6d. to 1s.
Lemons 6s. ,, 12s.		Lettuce, Cos, each	6d. ,, 8d.
Almonds, per lb.	2s. ,, —s.	" Cabbage per doz.	2d. ,, 3d.
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Endive, per score ..	1s. 6d. ,, 2s.
" Cobs, ditto ..	80s. ,, 100s.	Celery, per bunch....	9d. to 1s. 6d.
" Barcelona, per bushel.....	20s. ,, 22s.	Radishes, Turnip, per	
Nuts, Brazil, ditto. . .	12s. ,, 14s.	dozen bunches	— to 6d.
Walnuts, per 1000 ..	9s. ,, 12s.	Water Cresses, ditto..	6d. ,, 9d.
Chestnuts, per bushel 15s. ,, 24s.		Small Salad, per	

VEGETABLES.

Cabbages, per doz. . .	1s. to 1s. 6d.	HERBS.	
" Red, per doz. . .	2s. to 4s.	Basil, per bunch	4d. to 6d.
Cauliflowers, each....	9d. ,, 1s.	Marjoram, per bunch	4d. ,, 6d.
Broccoli, per bdlc	3d. ,, 6d.	Fennel, per bunch ..	2d. ,, 3d.
Savoy..... 1s. ,, 2s.		Savory, per bunch ..	2d. ,, 3d.
Greens, per doz. bunch.	4s. ,, 6s.	Thyme, per bunch ..	2d. ,, 3d.
Spinach, per sieve ..	— ,, 4s.	Parsley, per bunch ..	2d. ,, 3d.
French Peas, per bshl. 6s. ,, 10s.		Mint, per bunch	2d. ,, 4d.
French Beans, per 100 1s. ,, 2s.		Green Mint	6d. ,, 8d.
Carrots, per bunch ..	9d. ,, 1s.		

POULTRY.

The decline of the London season has hitherto been almost imperceptible in its influence on the markets; but another week will make a great difference in our quotations.

Large Fowls 6s. 6d. to 7s. 0d. each.	Quails 1s. 9d. to 2s. 0d. each.
Smaller do 4s. 0d. to 5s. 6d. ,,	Leverets .. 3s. 0d. to 5s. 0d. ,,
Chickens .. 2s. 9d. to 4s. 0d. ,,	Pigeons..... 10d. to 1s. 0d. ,,
Geese 6s. to 6s. 6d. ,,	Rabbits..... 1s. 6d. to 0s. 0d. ,,
Ducklings 3s. 6d. to 4s. 0d. ,,	Wild Ditto .. 10d. to 1s. 0d. ,,
Guinea Fowl 0s. 0d. to 0s. 0d. ,,	Dottrell .. 0s. 0d. to 0s. 0d. ,,
Plover's Eggs, in bulk.....	0s. to 0s. 0d.

WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 29—AUGUST 4, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
29	TU	Bombyx Coryli.	29.927—29.899	77—53	W.	—	21 a 4	51 a 7	0 55	27	6 9	211
30	W	Bombyx gonostigmata.	29.872—29.828	75—55	S.W.	.24	23	50	1 59	28	6 7	212
31	TH	Midaria rotunda.	29.750—29.736	71—42	S.W.	.14	24	43	sets.	29	6 4	213
1	F	Lycæna Chryseis.	29.853—29.773	74—54	S.W.	.02	26	45	8 a 33	1	6 1	214
2	S	Lycæna Virgaureæ.	29.824—29.728	76—50	S.W.	0.07	27	45	8 48	2	5 57	215
3	SUN	11 SUNDAY AFTER TRINITY.	29.780—29.639	74—52	S.W.	—	29	43	8 59	3	5 52	216
4	M	Lycæna Phleas.	29.713—29.664	72—53	S.W.	.01	30	41	9 10	4	5 47	217

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 74.6°, and 51.8°, respectively. The greatest heat, 92°, occurred on the 1st, in 1846; and the lowest cold, 38°, on the 3rd, in 1847. During the period 96 days were fine, and on 100 rain fell.

LASTREA DILATATA.



THERE has been much "learned dust" raised relative to this Fern, its alleged varieties, and its want of distinct specific characters when compared with *Lastræa spinulosa*. The doubts and "dust" are occasioned, we think, by the admitted fact that *L. dilatata* varies very much in form and stature in accordance with the situation where it grows. It has been called by botanists *Aspidium dilatatum* and *A. spinulosum*; *Lastræa multiflora*; *Lophodium multiflorum*; *Polypodium aristatum*, *P. cristatum*, and *P. dilatatum*; and *Polystichum multiflorum*. In English it is known as *Broad Sharp-toothed Shield Fern*; *Broad Prickly-toothed Buckler Fern*;

Broad Prickly Fern; *Great Shield Fern*; and *Dilated Shield Fern*.

Root black, tufted, not at all creeping, but large, erect, and almost entitled to be described as tuberous. Fronds varying in size from a few inches to two feet, and in very favourable situations twice that height; they rise from the root-stock in a circular cluster, and bear some resemblance to the capital of a Corinthian column. They are erect, broad, spreading, light green, and spear-head shaped in their general outline; their leaflets have a similar form, and are so deep cut, or pinnatifid, into long, blunt, parallel, deeply-toothed, sharp-pointed segments, that they seem doubly leafletted; indeed, the lower pair are so. The main stalk is slender, slightly scaly throughout its length, but mostly so where there are no leaflets; the stalks of the leaflets, also, are slightly scaly. The leaflets are rather alternato than opposite, and the leaflets are, for the most part, also alternate. Fructification numerous, and nearer the midrib than the edge of each leaflet; at first swollen and kidney-shaped, but the cover (*indusium*), when burst, becomes circular, with a deep cut in its lower side.

We have observed how much this Fern varies in form, and the best particulars relative to this characteristic are the following by Mr. Francis:—

"If it grow in a situation which is wet in the spring and dried up in the summer, as on the margin of a pond, it will become var. β , very dark, large, and quite drooping. Continued wet will elongate the leaf and separate the pinnae and pinnules as in var. γ . A young plant is only twice pinnate and flat. A dry and rocky, or a confined situation will render the leaf small and less divided, the pinnules blunt, deflexed, and drooping: thus starved it becomes the *Aspidium dumetorum* of Smith (var. δ). I know not the nature of the habitats in which the recurved var. (ϵ) of Bree grows. [It is said to grow both in dry and wet shady places, preferring moisture. But all the recorded localities are in damp climates.—Ed.] The varieties *recurvum* and *dumetorum* are, I believe, not altered by cultivation, and Sir J. E. Smith implies, in his description of the latter, that its spores produce the same variety.

α (*dilatatum*). Frond sub-tripinnate, triangular, ovate. Pinnules petioled.

β (——). Frond tripinnate, deflexed, triangular. Pinnules convex.

γ (——). Frond tripinnate, triangular, elongated. Pinnules somewhat decurrent, and distant from each other.

δ (*dumetorum*). Frond small, triangular, drooping. Pinnules blunt.

ϵ (*recurvum*, Bree). Frond small. Pinnules concave, and dark green, *Newm.* p. 61. *Lastræa Fenisecii*, *Bab.* *Lophodium Fenisecii*, *Newm.* 1854."

We only differ from Mr. Francis in considering that

L. Fœniseii is a distinct species, and not merely a varied form of *L. dilatata*.

It is found in shaded, watery, sandy soils, or in moist, rocky woods, and is so common that no locality need be specified.

Mr. W. Reeve observes to us that this, also, is one of those Ferns which are valuable for the adorning of rockery or shrubbery, and will be found to thrive where the *Lastræa cristata* will not, being not so impatient of sunshine; not but what it will attain a greater size and more beauty, when grown in the shade, than when grown in a full exposure to light. It is, therefore, well adapted to the shaded side or base of the rockery; and as it will, when once established in a favourable situation, attain a height of three or four feet, forethought will be required in planting, so that it may not smother the smaller species. It prefers a moist situation for its abode, but will grow remarkably well upon an elevated position that is well shaded. If grown as a pot-plant, it must be allowed a moderate space for its roots; and with a compost of loam, peat, and leaf-mould, with a free admixture of silver sand and good drainage, not being potted too firmly, and afterwards, a moderate degree of shade and a good supply of water being given both at the root and over-head, it will be found to have had its wishes met. If grown upon the rockery or in the shrubbery, it will prefer more loam and less leaf-mould; and if placed in an exposed situation, it must be shaded until established, when it may be gradually exposed to meet all weathers. It will not require any protection in winter, unless grown in pots, or upon very exposed parts of the rockery, where a slight protection will be preferable. It is not suitable at all for the Wardian Case, nor for in-door culture, as the confinement makes it weak. The propagation may be pursued in a similar way to that mentioned for *Lastræa cristata*.

HARDY FRUITS IN GENERAL THIS YEAR.

I now approach a somewhat important subject, inasmuch as fruit, on the whole, will be found deficient in most parts. I will, as a preliminary proceeding, state how they are in this quarter (in Cheshire).

Apples may be considered a failure; the same may be said of *Plums*; *Pears* little better reported of; *Cherries* not much cultivated; *Gooseberries* abundant; *Black Currants* much complaint of the fly; *Damsons* similar to other *Plums*.

Thus much for our farmers and cottagers; I may now state how things stand with myself. *Apples* a middling crop; *Pears* very thin in places; *Plums* pretty fair for the season; *Peaches* and *Nectarines* a most splendid crop, as usual, and the trees in singular health; *Apricots* a middling crop; *Damsons* moderate; *Black Currants* a fine crop; *Red* and *White* the same; *Gooseberries* most abundant; *Strawberries* a very fair crop; *Cherries* tolerable. Such is the character of things here. In the mean time I may observe, that the trees in general are particularly healthy, and very free from blight as compared with some seasons. The American blight gives us most concern.

The causes of such failures must have been the very low temperatures we endured at critical periods. As for *Pears*, the defect is at once traceable to the scarcity of

blossom; I do not know that I ever saw the bloom so thin in my life. But the wood of the trees was not ripened so well last autumn as it ought to have been, and herein lies one root of the evil. Now, with regard to our garden fruits which have failed, as to their crops, it will be found that young and fresh trees, especially, will have a tendency to produce a superabundance of spray; and I mention it in order to draw attention to the great benefits derivable from root-pruning, even in summer. It is really of little use dubbing or pinching the rampant spray of such trees as I have here alluded to, under the circumstances of such continued rains as we in these quarters have experienced during the last three weeks, without, at the same time, giving some check to the root. Nobody need be alarmed as to this proceeding if performed with caution. The mere opening a trench at the very extremity of the roots, and suffering it to remain out until the sides become dry, will do much. In cutting the roots, it will be quite sufficient if merely the extreme points are cut away, for it will not be well to use that severity which we sometimes practise in winter.

However, root-prune or not, the spray will require a vast amount of reduction this growing period, especially in *Pears*. In regard of this it is not sufficient to merely pinch the whole of the spray; neither is it expedient so to do. Every shoot not required, if it can be determined, should be totally stripped away, or so cut back as to neutralise its power for producing shade. In most cases, one-half of the grossest shoots may be removed at once. This done, it will be easy to select and tie down any fruitful-looking spray which is required to remain. Such done, the whole remaining portion ought to be pinched. This will confirm the habit, if inclined to fruit-buds, and bring on an earlier ripening condition.

Many persons are timid as to this operation, fearing it may force the true blossom-buds for the ensuing year to burst; but this fear is groundless. Such may be the case when a severe stopping is exercised on a very gross subject in the early part of June; but there need be no fear after the middle of July. But, come what may, the fruit-buds in course of organisation must have light, and sunlight too, acting directly on the foliage pertaining to such buds. If any one doubts this, let him note the north side of trees in general, or say, the north side of the beautiful saddle trellises we may see running east and west; the difference in the budding will be at once manifest. But the foregoing remarks apply to our other fruits, especially those which require training.

And here let us speak of the *Apricot*. Whoever knew a *Moor Park*, if suffered to run wild, or to breast wood, a good fruiter? It is singular to witness the great success which attends the cottager's *Apricot* in many parts of the country. As far as I have seen, the cottager, in general, is more successful than the gardener; and why? The cottage *Apricot* has a warm wall behind it, a house wall, and such is always warmer than a mere garden wall; it has a pavement, perhaps, over its roots, or, what is about equivalent, border-flowers planted, so that there is little of spade-work or manuring. Need I observe that the condition of the gardener's *Apricot* is generally the reverse? The consequence is that the cottager's produces wood much slower than the other, and, indeed, seldom can afford to produce breast-wood. If, however, the latter be produced, it is generally dubbed away without more ceremony than that employed over a hedge. Of course, *Apricots* should be so situated in regard of soil that they produce their wood moderate and sound; and if coarse breast-shoots appear, depend it is the best policy to rub them clean away when a few inches in length. Every glimpse of sunlight is needed to act on the embryo fruit-spurs from June to October, according to my notions concerning the *Apricot*, which we may fairly term our most tender fruit next the *Vine*.

Plums, Cherries, &c., are content with much less solar light, and, indeed, could scarcely endure unscathed that intense amount which the Vine or Apricot would revel in. But even here Nature must not be permitted to run riot. Strong breast-shoots will occur, and must be rubbed away or pinched, if not for the admission of light, yet for the more equal division of the sap.

And here let me refer to young espalier Apples, Pears, and other fruits in course of training. These in the month of July will require a nicety of management above all other periods. Here, again, over-strong shoots must be pinched, in order to produce an equal division of the sap, and, in many cases, to force out shoots from the lower portions where nakedness occurs. A thorough training, too, if hitherto neglected, must be carried out, for there is no time to be lost; autumn, with its chills, will soon approach us, and it is too late then to talk of ripening the wood. The same may be said of young trees on the walls, of whatever kind, especially the Peach or Nectarine. Before closing this subject I may as well advert to the pinching of the wood of trained trees in general—a practice I have for years recommended in these pages, and one to which I must still adhere.

Like other matters, there is, of course, a time for it, and that time, if the practice be generalised, I consider, is the period when fruits of all kinds begin to change for ripening. It so happens that by that period trees have produced sufficient extent of wood for one year; or if they have not, it is too late to commence. Pinching or stopping not only equalises the sap in the early growth, but also has a tendency to sustain a high condition in the principal foliage, or that which more eminently conduces to size and flavour in the fruit. Late growths commonly have a tendency to dissipate this power: such, at least, are my firm impressions. Pinching or stopping of this kind should be first exercised over all the superior portions of the trees, and after the lapse of a fortnight a second series may submit to the same ordeal.

ROBERT ERRINGTON.

CHRONICLES OF THE EXPERIMENTAL GARDEN.

BEDDING GERANIUMS.—Of all the bedding Geraniums of the *Quercifolium*, or greenhouse kinds—for which we want an approved name, so as to distinguish between them and the Scarlet breeds—there is one called *Delicatum*, which seems to be the general favourite of all that have yet flowered with us. It is from the rich stores of the Messrs. E. G. Henderson and Son; and a new dwarf Ivy-leaf, called *Etoile de Vase*, which they sent, is of the best habit of all this class for a bed or pot-plant. It is coral-stemmed and coral-stalked, the flower-stalks being pure white; the flowers are as in the old Pink kinds. An old plant of this, after being cut down three or four times, and trained out squat-fashion, as they do the Pelargoniums, might be so managed as to grow well enough in a 48-sized pot, when it might be from twelve to eighteen inches in diameter, and then it would make the prettiest little ornament of all the race to put into a silver or china vase in the drawing-room, and to be placed so as to look down upon it; then the reddish coral-stems, the white coral-stalks, the deep green flower-buds, and the pink flower would look as if the whole was artificial, or made on purpose for the rooms. I think I have it from another contributor without a name, only numbered 38. The distance between the joints of the young wood is not much more than an inch, and a flower-truss comes at every joint after it begins to bloom. I place it on the same level as the *Golden Chain*. As this name is getting common, young gardeners must learn to pronounce it thus: *Ai-tu-al de Vauss*.

Like the rest of the world, I have allowed a false description of the new *scarlet* Ivy-leaf Geranium to escape through my fingers. There is a pincushion-bed of it now in the Experimental Garden; but there is not a *scarlet* flower in the bed. It is a *crimson* flower, but a light crimson. I mention it, however, for a very different purpose. You recollect that one of the earliest contributors to the Experimental said that this Geranium “came pink sometimes;” and so it has already in our hands. This enables me to father it on the right parent at last. From the first moment I saw it I was perfectly satisfied that it was a sport, and now the sporting parent is before me—*Peltatum*, or the Climbing Ivy-leaf, with which Lady Southampton covers the rafters of her beautiful conservatory. The *Crimson*, *alias* *Scarlet*, Ivy-leaf has produced here one shoot with the exact flowers of *Peltatum*, but the shoot itself had not the vigour of the parent of the sport. It is a *dwarf variety* of *Peltatum* to all intents and purposes, and I shall be disappointed if this is not first proved in the Experimental; but every one who may have a like sport ought to make sure of it at once, as we have done already. If this surmise should turn out as I expect it will, it will be a most singular thing—a strong, rambling climber, with a light pink blossom, produces a *stunted sport* with light crimson flowers. This sport has the very best habit for a flower-bed, instead of being a climber like its parent. By-and-by the crimson sport reproduces its parent in a *stunted form* also; and thus a Pink Ivy-leaf bedder is obtained from Lady Southampton's climbing Geranium after all. It will be more free and flowery than the old Pink Ivy-leaf bedder, *Lateripes roseum*. In case I should lose my sport, having a great many little things to look after, I want to have many on the look out for it, and to root it, and keep it over the winter, and next season we shall give a final judgment on it.

Talking about sports brings them on the surface ready to one's hand. How do you think Mr. Beck, of Isleworth, got those curious Pelargonium sports with “pricked ears,” of which *Harlequin* is the only one that I remember just now? Were they seedlings, or what? I never heard the true story, but I have the same kind of sport on one of the Oak-leaf bedders in the Experimental Garden, and I hope it will root and keep true with me, as, although the flower is not quite the thing on a pot-plant, it may tell somewhat in a mass or bed.

One more sport, and I shall not trouble you any more with them for a very long time indeed. This time last year one of my seedling Geraniums produced a white-leaved shoot near the bottom, as the coral-stemmed kinds often do; and, knowing it would be difficult or next to an impossibility to root this sport, or to keep it over the winter if I did get it to root, it struck me to try a different experiment with it, and so I did; and of all the ways you ever heard of for getting a new variegated Geranium this is the simplest, if not the best and the surest:—I headed down the plant to the white shoot, and picked out all the buds and shoots below it, and thus compelled the roots to work for the one white shoot. Well, the white shoot remains to this day, not much bigger than it was this time twelvemonths; and from one side of it at the bottom sprung a beautifully variegated shoot, which is now a fine-looking plant, as healthy as can be, with no disposition to bloom. I had great numbers of white-flowered seedlings last year, and if this should prove one of them it will be valuable. At all events, we might have had hundreds of kinds of variegated Geraniums if this plan had been adopted with all the white shoots that have appeared since I saw one for the first time. Now, I would advise you, as soon as you finish reading this number of THE COTTAGE GARDENER, to put on your garden hat and gloves, and walk out at once and see every plant you have. Who knows but you may have ever so many of these

white sporting shoots one way or another? and every one of them that will "catch your eye" make sure of it, on the principle of the Experimental Garden; and we shall soon have enough of these variegated kinds to select from for beds, just as we now do with the plain-leaved kinds.

LINUM GRANDIFLORUM.—My seedlings from the seeds sown in pots in the open air on the 13th of May came into bloom on the 20th of July, just five weeks later than plants from seeds which were sown three months earlier. Now, if you look at page 233 of Vol. XIV., you will see the exact colour of the flowers in my report of the June Show at Chiswick; but, to save trouble, I shall extract what relates to colour. "The flower of this *Linum* is exceedingly rich and gay. It is not just a crimson (as the French said in 1848), but next thing to it, with a darker eye. The word *atro-sanguinea* gives the best expression of the colour;" therefore, whoever sold seeds of it as a red, or *rubrum*, or scarlet, ought to have been taken before the Lord Mayor for dishonesty.

D. BEATON.

RECOLLECTIONS OF RAITH.

THE gardens of this beautiful residence of Colonel Ferguson are close to the west end of Kirkaldy. The house stands on elevated ground, a mile or so to the north, commanding a fine sweep of its own rich woods, its extended lakes, the expanse of the Firth of Forth, and the scenery of the opposite shore, mellowed by distance and the intervening water. This and Weems Castle were laid out by Nieol. The range of houses were the same as engraved in his *Gardener*, and, no doubt, under his able management, everything answered. Until lately Weems Castle had the range of houses exactly as Nieol left them. There, however, I heard that innovation and improvement were unfolding themselves in new houses, much, I should imagine, to the joy of Mr. Simpson, who managed the old ones so well twenty-five years ago. It is not to be wondered at that the worthy veteran, when in London in the Exhibition year, could have no recollection of the raw youths—one now no more—who called upon him one morning before breakfast, having walked twenty miles the preceding night to Kirkaldy after six o'clock, obtained lodgings, paid their score over-night, and got to Dysart early in the morning, after exploring almost every hole and corner in the "lang town" in searching for and finding the identical house in which Dr. Adam Smith wrote his "Wealth of Nations," a work which we were then reading on the sly, and from which we managed to pick out some principles of political science, having previously "drifted" to all points of theory and belief, being anythingarians and nothingarians in turn. You may smile at the idea of reading such a book on the sly; but it was no less a fact, for, as respects progress and freedom of opinion, the "former times were not better than these;" as a simple proof of which I may mention, that though the young men in the garden clubbed to pay for a weekly paper, and some wished the paper changed, they were given to understand that such a one as they wished could not come to the place. Such journeyings at that time were anything but uncommon, and as the greatest advantages have some countervailing lesser evils, so the lesser evil at the present time is, that the cheap and expeditions rail will as effectually take away the powers of walking from young gardeners as the 'busses have already done in the case of the Londoners.

At that period, Raith, at which we called during the forenoon, was, and had long been, under the management of the late Mr. Norval, whose pupils are to be found in every quarter, but none better known and respected than Mr. Thompson, of the Horticultural Gar-

dens. If an unfortunate crisis should happen with these Gardens, there are ways in which the benefited may show that they are not wholly ungrateful. Raith has now been managed many years by Mr. Crockett, one of the most persevering and enthusiastic gardeners I ever had the fortune to meet with; and a few points that came under my notice in the first week of May, I will take the liberty of mentioning for the benefit of our readers.

The long range of houses built by Nieol has totally disappeared, and a shorter but very wide and lofty range of lean-to's has taken their place, consisting of five houses or divisions, two Vineries on one side, a Vinery and Peachery on the other, and a greenhouse in the centre, there being pits and frames in a ground behind. All these houses were in excellent order, and showing full crops. In the greenhouse I noticed large plants of *Erica Linnaeoides superba*, *Melanthra*, &c., and a broad stone shelf in front, stored with nice compact plants of the same genus, among which was also a perfect gem of that real beauty *Trenandra* (*Tetralthea*) *ericifolia*, which I recommend to every amateur having a greenhouse, and which seems as easily cultivated as the hardiest house Heaths or Epacrises. On the stage, besides a nice little plant of *Rhododendron Dalhousianum*, I think on its own roots, in bloom, and the blooms more clear than they generally come, perhaps the two most striking were a large plant of *Cantua dependens* in bloom, and a huge bush of *Calceolaria violacea*, smothered with its little violet-coloured flowers. Few can equal, and far less surpass, the Messrs. Veitch, the introducers of this *Cantua*, in blooming it satisfactorily. Mr. Crockett had grown it freely the previous summer, exposed it liberally to sun and air in autumn, curtailed watering as the days shortened, kept it dryish and cool in the greenhouse in winter, and, as the sun gained power in March and April, gave more of the water-pot; and the increased temperature of the season seemed all that was required to bring out a mass of bloom.

The *Calceolaria violacea*, if it is a *Calceolaria*, I have never grown, though I saw it some years ago, and rather think it was not much thought of about London, though really it is a pretty shrubby plant, with leaves not much larger than those of *Mahonia*, producing myriads of its little flowers on the young shoots of the previous summer, and altogether a striking object when grown as in the present case. I met with this *Violacea* in several places about Edinburgh; so it seems to be rather a favourite with our northern friends. Would it not be worth while for Mr. Lane or Mr. Crockett to try and get the large-flowered *Calceolarias* allied to this small-leaved, thoroughly shrubby kind? for what we call shrubby *Calceolarias* have much of the herbaceous in them after all.

Strelitzia reginae.—In answer to a correspondent some time ago, I doubted the managing of this successfully in a house from which the frost was merely excluded in winter, because, in several cases, I had lost and injured plants in making such experiments. In most if not all of these trials the plants were in pots, and, consequently, more liable to casualties than if planted out. Mr. Crockett has been more successful. A large mass of it had been planted out in the end of a late Vinery. It was coming into bloom, showing plentifully and strongly. Of course, it would have plenty of heat in summer; but in winter there was just enough heat given to exclude frost, and just enough moisture to keep the plants from shrivelling, and that was very little.

Line-water for driving worms out of pots.—There is, no doubt, a difference in the strength of lime in different districts. I have advised being careful of its use with Heaths and fine-haired plants when annoyed with worms. Mr. Crockett has no such samples. His heath-soil, though seemingly very good, he found prolific in worms; at least, they made a home of his

pots, do what he would to prevent it. Many of the plants were too large for the balls to be turned out conveniently; and if they were, poking them through and through with a wire or stick did pretty well as much mischief as the worms by their new streets and alleys. Lime-water was tried by watering in the usual way, and some were killed and brought to the surface; but the more cunning and experienced ones scented the danger as the water began to get down by the sides of the pot, and retreated to their fortress in the centre of the ball, where they remained until time and frequent waterings with clear water had dispersed the acrid qualities of the lime; and then they as much as said, by the presence of fresh earth-heaps, to their would-be exterminator, "Here we are again." Mr. Crockett is not a man to be easily beaten by anything, and least of all by a worm; and so he hit upon a plan for carrying thorough and speedy destruction into the camp of the enemy, simply by securely corking all the drainage holes in the pot, and then flooding it for several hours with the clear lime-water.

Training Geraniums.—Besides the plants of *Cinerarias*, &c., in the greenhouse, there were fine plants of them and *Azaleas* under a shade behind the houses, for reserving the bloom for a particular purpose, the most showy and fine flowers among the *Cinerarias* being *Queen of Beauties*, *Empress*, *Lord Stamford*, *Scottish Chieftain*, *Charles Napier*, *Lady Camoys*, and *Fascination*, a beautiful blue, with clear white centre. I also noticed a new way of training *Pelargoniums*, much in advance of the forest-of-sticks system, though not quite up to Mr. Thompson's system, who dispenses with all stays and ligatures whatever. Mr. Crockett's plants were dwarf, compact, and bushy, and much more in diameter than in height, the very centre being gently rounded in blunt, circular outline. A wire or string is fastened round the rim of the pot. Two, or three, or more neat little sticks, and in length proportionate to the diameter of the head of the plant, are laid across the mouth of the pot, the centre of each crossing another as near the centre of the pot as the stem of the plant will allow, and the outer ends of these cross sticks standing out beyond the pot, like the spokes of a wheel before the felloes are added. Each stick, as it passes the rim, is fastened there to the bandage below it. You have thus the spokes of a wheel in miniature across the mouth of the pot, and the idea of the wheel is completed by connecting the out-jutting ends (the spokes) with a neat light wire as a circumference, and to this wire the lower branches are secured; and by a little hasping of branch to branch, and, perhaps, a few invisible twigs, the plant is regular and secure all over, and, when in its beauty, the wheel framework is totally concealed.

Backgrounds to Flower-gardens.—I forget now how the large wall-enclosed space in front of Nicol's range of houses was occupied in Mr. Norval's time, but it has now been turned into a large flower-garden on turf, for which I saw great quantities of bedding-plants hardening off; and unity of expression has been studied so far, that almost the whole of the walls bounding that space have been diverted from the useful to the ornamental. The losing of such ground for vegetables, and depriving the walls of fruit-trees, would have been serious considerations in most places, but were of no moment at Raith, the kitchen-garden being still very large, and plenty of walls of all aspects for fruit. What has been left of the north wall, against which the houses are placed, has been properly devoted to ornamental plants too tender for open positions. The garden wall that separated the enclosed space from the kitchen-garden to the south was the difficulty converted by Mr. Crockett into a happy opportunity for displaying correct judgment and good taste. I may be too partial in such opinion, because it is just an example of what I have

frequently recommended. A wide border on the north side of this wall has been excavated and filled with heath-soil, found plentifully on the estate. Tall *Rhododendrons* of the commoner sorts were planted close and nailed to the wall. These now mostly everywhere reach to the top, and will soon be higher, and allowed to grow out. There will soon be no appearance of wall at all. The rest of the border was filled with good stubby plants, and the commoner ones are being removed, and replaced by the better ones, of which a fine stock is coming on. Many of the tree hybrids had already flowered. Fine plants of *Noblecunum* and *Altaclarensis* made this border gay, and now I presume it will be a perfect blaze. Now, here at once is a distinct feature from the flower-beds, an elegant boundary to the flower-garden, and a fine background to it for throwing back its beautiful colours in the summer and autumn months.

Unity of Expression.—With so much of the unique, I was so fortunate as to find one jarring note, and which might have escaped detection reader if the flower-garden had been a mass of colour, and thus prevented the eye passing so readily over it. The entrance is at the east end, and when admitted the flower-beds are before you; the *Rhododendron* border to the left; the houses and conservative wall to the right, on which wall Mr. Crockett's house stands, a good specimen of what gardeners' houses should be, and the windows boldly looking into the garden. The western extremity, to which the eye wanders, is bounded by a wall, rougher and lower than the other boundaries, and conspicuous, because, I think, covered with fruit-trees; and what is worse, beyond this wall, the most prominent object is a long, common, shed-like, slate roof. It might be a cow-house or a stable for anything you know, until informed that it is the roof of the rooms appropriated to the young men. Here the question of *utility* does not improve the matter a dot, because that peculiar utility could never be discovered unless you were told of it or went round to look for it; and an ornamental roof would just have answered the purpose of utility as well. Various remedies can easily be applied, such as devoting that wall also to evergreens, raising it to the height of the other walls, which would hide most of the roof, changing the character of the roof itself, or transplanting several tall spiral trees between the wall and the objectionable roof, which, if they did not wholly conceal, would break its outline.

Grafting Rhododendrons.—In the kitchen-garden I found several hundreds of nice plants of the best kinds growing vigorously in peat, grafted by Mr. Crockett on *Ponticum* and *Catawbiense*, &c. In the frame-ground there were several hundreds just beginning to grow. Small plants were taken up, and potted and well watered, and placed in cold frames. The scions—very small bits—were obtained before the buds began to move, the head was cut off the plant in the pot, a little piece sliced off the stem left, a similar piece removed from the scion, the one placed to the other, tied, a little clay rubbed over, a moist atmosphere kept about them, thick shading given in sunshine, and hardly one ever fails. As these get to some size they obtain the places of honour, and the commoner ones are removed to the woods and the margins of the lakes.

Renewing old Cankered Apple-trees.—This has been done very successfully by cutting the trees down, and grafting them with kinds that were proved to be healthy in the neighbourhood.

Keeping Cauliflowers in Winter and Spring.—Of all the modes I have heard of Mr. Crockett's is the simplest; and as for its efficacy, I can only say I saw the remains of the stalks in May. A darkish, low, thick-walled shed on the north wall is appropriated to the purpose, and the *how* is worth I don't know how much, it is so easy and simple. In autumn, before fruit is expected, the heads

of Cauliflower are cut off, when firm and compact, before they are full grown. A good piece of the stock is retained with them, and these stalks are fastened in earth on the floor—dry rather than wet—and just as close as the heads will permit, all the leaves being removed. A small space thus held a large quantity, and there was a good supply all the winter.

My space is more than exhausted, or many other matters suggest themselves from my short visit. I must just mention, that plants from *cuttings of the Wellingtonia and Cephalotaxus* are as upright and vigorous as from seeds; that by the sides of the beautiful lake, the *Rhododendrons* do best that are growing in the mud or extracted from it, a result quite different from that experienced by my neighbour, Mr. Fraser, at Luton Park, who, by the way, was a pupil of Mr. Crockett; that the lake sides and the Den are replete with beautiful sylvan scenery; that in the latter the *Pinetum* is placed, containing good specimens of some of the finer kinds, including a *Pinus insignis* that had lost its head or leaders, but which had been taken by a branch growing upright and vigorously, and a peculiarly glaucous, rich green *Abies Douglasii*, about sixty feet in height, and loaded with young cones. On the side of this Den, traversed by miles of walks, were large masses of *Ferns*, of *Periwinkles*, of *Digitalis*, and *Lychnis dioica*, &c., and after breathing a time or two, and at last getting up to the mansion, the rich varied view I have already alluded to was only broken in upon by a fine *Araucaria*, a noble Irish Yew, large *Arbor vitas* and *Hollies*, and beautiful Portugal Laurels, the diameter of the head of one of which I found to be fourteen yards.

There is no flower-garden at the mansion. Anything in the common way would be quite out of place; but such a position for terraces could rarely be met with.

One fact more, and I close my sunny recollections of Raith. The whole of the walks by the sides of these lakes, and through these picturesque and romantic woods, with the exception, perhaps, of a small part near the mansion, are open to the public, without attendance, let, or hinderance. Let us hope that such confidence on the one hand will produce integrity and trustworthiness on the other. The prettiest young lady that would place a single flower in her parasol should be frowned out of all respectable society. All honour to that generous man who has long found that the practice of benevolence brings with it its own rich reward, and that kindness has a power that coercion and sternness never can wield. Pioneers they have been to that now noble band, who, with the authority of experience, are propounding in the high places of the land, that "doing as we would be done to" is a duty that tells not more to the benefit of others than it is necessary for securing our own true interests, even if these are confined to temporal affairs.

R. FISH.

BABRAHAM SHEEP LETTING.—This annual great meeting of flockmasters took place on the 11th of July. It was more successful even than in former years; nor is this a matter of surprise when we remember the increased value of sheep, and Mr. Webb's successes as an exhibitor, not only in England but France. Seventy-seven sheep were let, at an average of £33 1s. 4½d. each, being nearly £8 per head over that of last year! The following are averages of the last five years:—

	No. Let.	Average Price.
1852.....	69	£22 3 1
1853.....	71	22 6 3
1854.....	75	25 4 3
1855.....	77	25 15 2
1856.....	77	33 1 4½

The total produce of the sale was £2,546 5s. It should not be omitted that No. 256 was doomed to a transatlantic voyage, having been secured by an American gentleman for ninety guineas.

FLORISTS' FLOWERS.

THE ROSE.

I AM indebted to my friend, Mr. Charles Wood, of Maresfield, for the names and excellent descriptions of the following new Roses. It will be observed, that the greatest number are Hybrid Perpetuals, a class of Roses of the greatest merit and usefulness. This class contains the most splendid varieties, enriching the garden with their beautiful colours and highly-perfumed flowers from May to October, or even later in a mild autumn. They are the best, also, for forcing and exhibition purposes. They love a rich, rather loamy soil, and should be pruned in close towards the end of February and beginning of March.

NEW ROSES TO BE SENT OUT THIS AUTUMN.

HYBRID PERPETUAL ROSES.

1. *Arthur de Sansalles*.—This is a deep, rich, velvety, crimson purple, as dark as a Muskowa, or the old Tuscany Rose; indeed, this is the *only* dark purple hybrid Perpetual Rose with *double* flowers, and very good shape of medium size. Indeed, quite distinct from any other Perpetual Rose.

2. *Général Pelissier*.—Pale lilac rose, shape of *William Jesse*. Exceedingly large, and will prove a great acquisition.

3. *Général Simpson*.—Bright carmine; the same habit of growth and form as *Louise Odier*; the colour of the flower very much deeper than that variety. Indeed, a very pleasing Rose.

4. *Josephine Ledechaux*.—Rosy-pink, cupped; colour and form of *Sydonie*. A rather pleasing little Rose.

5. *Louise Magnan*.—Pure white, with blush centre. A very beautifully-formed and delicate-looking Rose.

6. *Madame Désire Giraud*.—Said to be a sport from *Baronne Prévost*. The ground colour of the flower is a beautiful creamy-blush, striped with crimson. Occasionally very pretty.

7. *Madame Knorr*.—Deep pink, with rosy centre; the flower-buds of this variety, before expanding, are very beautiful, being very long and delicately formed.

8. *Mathurin Regnier*.—Here we have a Rose of great beauty; in form and colour it very much resembles that beautiful Rose, *William Griffiths*. The flowers are, however, larger, with greater depth of petal; it is, also, a good grower, with very elegant foliage.

9. *Marquise de Murat*.—Lilac rose, of beautiful form, being large, globular, and very double; remarkably sweet-scented. A very pleasing Rose.

10. *Paonia*.—Bright carmine, large cupped, and double, very fine form; very much in the style and habit of *Robin Hood*, but larger and deeper in colour.

11. *Pauline Lansonzeur*.—Light crimson, shaded with violet; very large and fine form.

12. *Souvenir de la Reine d'Angleterre*.—This is really a very magnificent Rose; the colour is bright rose; very large and double; expanded, with fine bold petals. A great acquisition.

13. *Souvenir du Petit Caporal*.—Bright carmine; compact and very double. Does not appear to be a vigorous grower, but a very neat and compact Rose.

14. *Toujours Fleuri*.—Rosy-crimson, shaded with violet; large and full, and of exquisite shape; only a moderate and rather delicate grower.

15. *Triumph d'Avanches*.—Deep red; a large, double, bold flower. Very showy.

16. *Triomphe de l'Exposition*.—This is, perhaps, the finest Rose of the season. The colour is bright, dazzling crimson; the flowers very large and beautifully formed. Habit robust, with large, bold foliage.

BOURBON ROSES.

17. *Impératrice Eugénie*.—This was reported to be the

finest Rose of the season, with flowers as large as *Souvenir de la Malmaison*, and partaking of the form of that beautiful Rose. It has not, however, flowered here (at Maresfield) quite in perfection, although it may come better in the autumn. Rosy-blush, with deeper centre, and promises to be a large flower. We confess we are rather disappointed in this variety.

PERPETUAL MOSS ROSES.

18. *Impératrice Eugénie*.—Rosy-pink; compact, and very double; of first-rate form. This is unquestionably a new Rose of great merit.

19. *Madame Edouard Ory*.—Introduced last season. Bright pink. A very excellent Rose.

MOSS ROSES.

20. *Gloire des Mousseuses* (1855).—Pale rose, shaded with lilac; first-rate form; large and very double. The buds are exquisitely mossed.

21. *Marie de Blois* (1855).—Bright pink; large, and most beautifully cupped, in the way of *Coupe d'Hebe*. This is really a very first-rate new Rose.

22. *William Lobb*.—This is a new Rose, rather novel in colour; described in the French catalogues as "a Blue Moss Rose." It has flowered here; was a deep, velvety, purplish crimson, shaded with slate; not very double, but flowering in immense clusters.

SELECTED NEW VARIETIES OF LAST YEAR.

HYBRID PERPETUAL ROSES.

1. *Baron Laray*.—Rich rose-cupped, and double.
2. *Belle Lyonnaise*.—Pale flesh-cupped, and full.
3. *Comte de Nanteuil*.—Deep rose, large, and full. Perfect in shape.
4. *Deuil de François Willermoz*.—Rich, velvety-crimson, intensely dark; indeed, the darkest Perpetual Rose known.
5. *Duchess of Norfolk*.—Rich, vivid crimson; under side of petals shaded with lively pink. Foliage very fine. Form, a fine pillar Rose.
6. *Evêque de Meaux*.—Deep rosy-purple, large, and full.
7. *Général Jacqueminot*.—Most brilliant crimson scarlet. Fine form; surpassing *Géant des Batailles*.
8. *Gloire de France*.—Rich crimson; excellent shape; robust habit. A splendid Rose.
9. *La Fontaine*.—Light crimson; expanded; very large and full.
10. *Lord Raglan*.—Crimson scarlet; large and full.
11. *Madame de Cambacères*.—Rose-colour cupped, and full, fine form. A very profuse bloomer.
12. *Madame de Trottair*.—Lively cherry-colour; fine form, and pleasing habit. Very distinct.
13. *Madame Masson*.—Deep crimson purple; large and very full. A most superb Rose.
14. *Madame Théodore Martel*.—Deep flesh-cupped, and double; fine shape. A good variety.

PERPETUAL MOSS.

15. *Salet*.—Pale pink; expanded; large and double. A fine variety.

BOURBON ROSES.

16. *Aurore de Guide*.—Brilliant crimson. Decidedly one of the most rich and beautiful Bourbons grown.
17. *Omar Pacha*.—Bright cherry; neat, compact, and very double.

CHINA ROSE.

18. *Lucullus*.—Velvety, purplish crimson; very dark and rich.

TEA ROSES.

19. *Barillet Deschamps*.—White; the under side of the petals shaded with bright yellow; well-formed; very large and full.

20. *Gloire de Dijon*.—Fawn, shaded with salmon; flowers very large; form and habit of *Souvenir de Malmaison*; robust, and very hardy. Unquestionably the finest Tea Rose in cultivation.

NOISETTE ROSES.

21. *Augusta*.—Sulphur, in the way of *Solfaterre*; but deeper in colour, and more perfect in shape.

22. *Marie Chargé*.—Bright fawn, tinged with carmine. An improvement on *Ophir*.

MOSS ROSE.

23. *Baron de Wassenaer*.—Light crimson-cupped. A very fine variety.

HYBRID BOURBON ROSE.

24. *Charles Lawson*.—Vivid rose-colour, shaded; very large and double; good form. A fine exhibiting variety.

Amongst the immense number of good kinds of Roses, it is extremely difficult to select a few varieties. The above, however, are all excellent, and worthy of general cultivation.

T. APPLEBY.

(To be continued).

DOINGS AT WOODSTOCK.

"Go and fetch me several pailsful of the ammoniacal liquor from the gas-works, and then put *one* pailful of the liquor to *six* of water (in proportions) into the copper, and make it boil as soon as possible. I'll syringe every tree in the garden with the mixture, scalding hot! Something *must* be done, kill or cure; for soap-suds appear to have no more effect upon this desperate blight, comparatively, than water." Such were the instructions which startled my odd man about six weeks ago; and the result is marvellous. My poor trees were fast bounding towards that fate which Mr. Robson says of those in Kent; but the application saved them. I applied it, in the evening, with a syringe; and warm work it was. I believe my man and I were never so hot in our lives before, and he is an old Indian soldier; for the action of boiling the gas-water created a floating substance worse than pitch, which clogged the syringe, and made it no joke for the arms after two hours' amusement. I borrowed the housemaid's pail, as being an utensil agreeable to the mixture; but I became rather anxious about my idea, as I observed the paint dissolved from its interior by the strength of the liquid, and it made the foliage on the trees look preciously blue, and my man exceedingly dubious. However, as one does not like to lose caste with one's own people, I made no sign, but steamed away, and only desisted when the last drop was served. Standard Apples, Roses, Gooseberries, Currants, and all the Wall-trees were drenched with the "stinking stuff;" and I used it so hot, that I could only bear my hand in it tolerably. I arose anxious and early next morning, and the trees looked *green* and refreshed, and have done so ever since. I believe I can, thanks to the application, compete with most people for fruit crops, and such Roses I never had before; and I really think not a single caterpillar has since dared to venture on to the trees which were washed. A violent storm came two days afterwards, or I should have applied another severe syringing with plain warm water.

"Ah!" said my *chef*, next day; "you have saved the trees, but you have killed the copper! The woman will be in a fine taking when washing-day comes round again."

"Oh! as to the copper, fill it with water, and toss a couple of shovelful of cinder-ashes, along with a pound of soda, into it; put in the syringe and the iron lading-bowl also, and boil rampantly for half an hour; that will clean any copper in the world. Pour the inkewarm contents on to the Asparagus-bed to-morrow morning; and you will find, after that, if you ask the women, they will tell you the copper looks brighter than ever."

By-the-by, I saved the haulm of my Asparagus last year in a dry loft; and how excellently it has answered as a shading material for my young-planted Celery in the trench.

Nothing that I ever saw or heard of can equal it for the purpose.

Of the fruit crops, as I have noticed them in this neighbourhood (Woodstock), I may observe of *Apples*, scarcely any; *Pears*, none; *Plums*, scarce; *Apricots*, a failure; * *Gooseberries*, *Currants*, and *Raspberries*, generally good. These latter, including *Strawberries*, are in my garden most abundant. Every description of vegetable crop is good. We have had early Peas particularly so. Agricultural crops are good and healthy. The Wheats were laid by the storm spoken of above, and, where heavy, have not righted themselves again. Grass, more than the average; and haying, for the last fifteen days, troublesome, having, every other day or so, experienced severe wind and storms, which I am anxious to see abate on account of my Bees.

In short, the country generally and the forest trees look particularly healthy, although, at the village of Ambroseden, near Bicester, where I was a few days ago, there is an exception. In some fields adjacent to the Rectory every leaf on the trees there is eaten into holes, partaking the appearance of having been riddled with swan-shot.—UPWARDS AND ONWARDS.

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO. XI.

THE FLOWER-GARDEN—GEOMETRIC GARDENS.

A FLOWER-GARDEN, to be effective, must consist of a number of beds collected together, and be more or less symmetrically arranged, so that, as a whole, they may produce a pleasing effect upon the eye. Even in what is termed an irregular flower-garden, if the relative positions of the beds are not artistic, if they do not collectively present some decided and well-defined arrangement, such a garden will fail to produce a pleasing effect; and, in the absence of that, no skill in combining the colours of the flowers can possibly produce the desired result. These observations are not intended to apply to such flower-beds as are occasionally scattered about the pleasure-ground at irregular intervals, and which are, of course, only intended to be seen as detached objects. Nor is it alone necessary that the beds themselves should present a symmetrical arrangement; the boundary should also partake of the character, to complete an harmonious effect. It is not necessary that the outline of the beds forming such a garden should be decidedly formal. On the contrary, symmetrical figures without formality are preferable. But whatever figures are chosen, they should be as free as possible from acute angles. Such portions of the beds can rarely be covered by the plants, and the presence of numerous spots of bare earth will not only disturb the otherwise general good effect of the whole, but they are also highly inconvenient. No error as regards the forms of flower-beds or shrubberies is more common than this, and it will hardly be credited, by those who have not given the subject attention, how much the good effect of a garden is destroyed in which it occurs.

Beds that are to be filled with plants of a mixed character should not be large. Constant attendance will, of course, be required; and if the individual plants are not readily accessible, without the necessity of getting fairly upon the beds, an unnecessary amount of labour and inconvenience will result.

Such gardens as the preceding remarks are intended to apply to are generally, and, indeed, most appropriately made upon grass. The spaces between the beds should be ample, to allow the free use of the scythe without damaging the flowers. This is a point, however, but rarely attended to, and the natural consequence of such confined space is to increase labour, without affording any advantage in return.

Geometric gardens proper are never so effective and appropriate as when in the vicinity of buildings, and having architectural accessories blended in the design. A geometrical garden worked out upon a lawn, and wholly detached

from any building, always appears to me to be out of place, and, as such, to lose half its beauties. Besides, such a garden should always be in a position where it can be looked down upon, as from a terrace, or a great portion of its peculiar effect is entirely lost.

It has always appeared to me that this kind of flower-garden is worthy of a more careful attention, as regards design, than it usually receives. The peculiar effect which such a garden is capable of affording is generally either wholly lost sight of or not recognised, most frequently the latter. Any formal arrangement of beds, no matter of what size or shape, is considered as sufficient to constitute a geometrical flower-garden; and if such beds are filled with plants in a tolerably regular manner, each corresponding portion of the design matching the other as regards colour, the utmost effect of which such a garden is capable is presumed to be realised. As this kind of flower-garden has, of late, become exceedingly popular, it may be worth while to consider briefly the principles which should influence the design.

1. The general outline should be a circle, an oval, or a parallelogram, or a simple combination of portions of these figures.

2. It should be on a perfectly level surface.

3. Its extent should not be so large that the eye cannot conveniently embrace the whole design at one view.

4. The width of the walks between the beds should be wide enough for convenience, and not wide enough to destroy the general effect of the design as a whole when seen, as it ought to be, from a terrace or elevated position.

5. The size of the individual beds, *i. e.*, their superficial area (for they ought not to be very wide), must depend upon the magnitude of the garden and the nature of the design.

6. The outline of the beds should be simple in figure, and as free from acute angles as possible.

7. The walks between the beds should be of gravel.

8. The edgings of the beds should be of stone, or some good substitute, and as simple in design as possible. A plain fillet is the best.

9. The design should not be broken up into too many parts, and ought, in a measure, to form its own boundary.

The great object to be attained in a geometric flower-garden is a pleasing combination of forms and colours; a scene upon which the eye can dwell with delight—an elaborate diaper pattern, in fact, and one that may be subjected to the same rules as a design for a carpet or a hearthrug, with this material difference, however—the garden is to be a prominent object, the ornament itself. A carpet should set off and heighten the beauty of other ornaments, itself being subordinate. But the principles of design are in each case similar. Each should form a complete whole; though made up of a number of items, each separate part should be indispensable to the other, and the whole together comprise a unity.

In considering a geometric garden under this aspect, the principles which I have ventured to lay down will, I think, be found appropriate in realising the effect intended. And it will be obvious that there are no limits to the various combinations which, both in form and colour, may be produced. The same design may, however, be differently filled in with colour each succeeding season, so that a new combination is produced—a new garden, in fact, each year.

Of course, a geometric garden does not necessarily combine all the qualities enumerated, for, under greatly modified arrangements, it might still be a geometric garden. But I conceive that the principles named would, if fully carried out, tend to give a higher character to such gardens than is very often observable.

While upon this subject, I cannot refrain from describing an example of what I think a most objectionable style for a geometric garden. It is, as such gardens should be, immediately contiguous to the mansion, and is surrounded by a very handsome stone balustrade, with other architectural accessories. A very excellent statue of Flora, as the presiding genius, occupies a conspicuous position, and a gravel terrace-walk, immediately within the balustrade, surrounds the garden. So far all is well enough; but, in the first place, the terrace-walk is entirely isolated by a space of turf from the gravel-walk at the entrances to the garden. In fact, you descend from one gravel-walk by grass

* At the famous Apricot village of Kidlington there is not only very little fruit, but the trees are suffering amazingly; branch after branch is to be seen completely dead.

steps to another gravel-walk. Here stone should have been employed. The flower-beds are of the most tasteless shapes, and with little or no connection with each other in the general design. The beds, too, are upon grass, an arrangement that can rarely be satisfactory in a small space with an architectural boundary. The garden and its accessories present a very incongruous effect, the good points being marred by the bad ones.—GEORGE LOVELL, *Landscape Gardener, Bagshot.*

(To be continued.)

GENERAL NOTES.—AUGUST.

SOWINGS.—As the supply of the spring crops of vegetables will principally depend upon the sowings made during this month, it will be best to make sowings of *Cabbages* of sorts about the middle of the month, not forgetting a few Red Dutch for summer use; even if the weather sets in very dry and hot, the seeds should be sown and the beds watered, to get good stocky plants before winter. Also, a sowing of *Cauliflowers*, to keep through the winter; a sowing of some hardy sorts of *Lettuce*, such as Bath Cos, Hammersmith, or Brown Dutch, for standing through the winter; and *Onion* seed sown now, some to be thinned out for use in the spring, and the remainder to be left for bulbing. Also, a sowing of Early Horn *Carrots* will come in useful in the spring; and the *Flanders Spinach*, a most useful sort, seed round, will stand the winter well. Sow *Vegetable Marrow*, if the weather is dry. Keep the plants well supplied with water, and the ground mulched with short grass, or any other short litter that can easily be procured.

Celery should be well attended to, keeping it supplied with water, or manure-water, if possible, in dry weather. *Fruit-trees on walls* will require attention in nailing and pruning, cutting back towards the end of the month the breastwood to two or three eyes, when all danger of the buds starting into growth will be over. To counteract the gross habit of some trees, and to establish an equilibrium between root and branch, it is necessary to have recourse to root-pruning, which is done by opening a trench at a moderate distance from the stem of the tree, and cutting the strongest roots; it will be the means of checking rampant and luxuriant growth, and of securing ripe wood in the autumn. The centre of *Gooseberry* and *Currant*-trees may be thinned, to admit a free circulation of sun and air, and a few matted up, or protected in some way from the ravages of wasps or birds, for autumn use.

Make fresh plantations of *Strawberries*; the runners that are not wanted should be cut away, to increase the strength of the old plants; and such runners, if any, as have been potted and intended for forcing, should be well supplied with water, and the pots placed on the walk, or plunged in an open part of the garden. Exhausted plantations of *Strawberries* should be dug in, manured, and buried deep, and the ground planted thick with *Cabbages*, to furnish winter greens.

The seeds of *Pelargoniums*, or any other perennial plants that may be considered worthy of the experiment of raising new varieties, should be sown as soon as ripe during the month, and *herbaceous plants* and *evergreen shrubs* increased by cuttings or by layers. *Double Hollyhocks* to be well staked, the flowers thinned out if over-crowded, and all worthless seedlings, being great robbers of the soil, pulled up as they bloom. *Trailing and climbing plants* should be frequently looked over, to keep them neatly trained and secure from rough winds. The faded flowers of *Roses* should be picked off, and the production of autumn blooms in the perpetuals encouraged by watering with liquid-manure, and, where practicable, by mulching the surface of the ground around the stems. To the many attractive qualities of the *Chrysanthemum*, such as brilliancy and variety of colours, habit of growth, and season of flowering, may be added, the facility with which it can be increased at a late period of growth, with a certainty of producing nice, stocky, free-blooming plants. The top shoots eight or nine inches long, with several side-shoots on them, now layered, one in a 48-sized pot, or even the shoots taken off and put

in as cuttings, one in a pot, or three of a sort or different sorts in a large pot in good, rich soil, and shaded for a few days during sunshine, will make dwarf, bushy, free-flowering plants.

Polyanthuses.—Advantage must be taken of a good soaking rain to put out seedlings. Equal proportions of loam, leaf-mould, and rotten cow-dung is a good compost for them. Seed should now be secured, as it is apt to be lost, and large plants divided, and planted in a shady border.

Carnations and Picotees should be finished layering without loss of time, and watered in dry weather, and those that were layered last month will now be fit to take off, as it is best to detach them from the parent plant as soon as they are rooted; the seed-pods should be looked to, protecting them from heavy rains.

Pansies.—Prick out seedlings, and plant out the struck cuttings for next year's bloom. *Dahlias* should have the ground slightly forked around them, and the surface mulched with rotten manure. They will require a plentiful supply of water at this season.

Cuttings of Pelargoniums and of *Scarlet Geraniums* will now strike freely put out in the common soil of the open ground, dug over, made smooth, and exposed to the sun. When the cuttings are rooted and potted off, to be placed in a pit or frame, shaded, and kept close for a few days, until they have made fresh roots, when they may be set out in an open situation to harden and ripen the wood, the better to withstand the severity of the weather when stored up for winter.

The flat Dutch and large York *Cabbages* are good sorts for farming purposes; the seed to be sown early in the month on a bed of good dry land; the seedling plants to be transplanted, four or five inches apart, into a piece of good rich ground about the end of September, there to remain until the beginning of April, when they should be finally planted out in alternate rows one foot apart. When they touch, the Yorks are to be pulled, and used as food for cattle or swine, &c., leaving the Dutch to occupy the whole ground. As Cabbage is susceptible of injury from frost, it will be necessary to clamp it in a dry state in November, to preserve it from rain and frost, by thatching it with straw, when it keeps well for a considerable time.

The Winter Vetch, if sown towards the end of the month, may be consumed in time to prepare the land for Swedish Turnips. During this month is a good time to sow *Rye*, which is worthy of more general cultivation as green food for cattle and sheep, particularly in the spring, when ewes and lambs will derive much benefit from it, and at a season when all other green food is scarce. When it is sown for this purpose, it should be sown much thicker than when it is intended to stand for a crop of seed. It is strongly recommended for land that is dry, or unsuitable for grass. It is cultivated extensively on the chalk lands in Berkshire, for the purpose of manuring the land for a crop of Turnips. The quantity of seed should be three bushels per acre when it is intended to be eaten down by sheep. The following advantages should be sufficient inducement for the more general cultivation of *Rye*:—It is an excellent green food at a season when, of all others, it is most wanted; it can be produced without sacrificing any portion of the usual rotation pursued on the farm, and with little labour; it will grow on any soil, especially on poor, loose land, where any other esculent is more or less uncertain; it will bear without injury any degree of frost or cold; it is readily consumed by stock; and it improves rather than deteriorates the soil.

In conclusion, we must again and again impress upon cottagers the advantages of collecting all sorts of rubbish, grass mowings, tufts of grass, or parings from the margins of woods or roads. The common Brake (*Pteris aquilina*), cut green, road scrapings, and other such materials, placed in a hole where the rain can lodge about them, with the addition of a little lime if it can be got, will be found, when rotted, a good manure for all sorts of culinary crops.—WILLIAM KEANE.

ARRANGEMENT OF OUR GARDENS IN THE OLDEN TIME.

By the name of "Orchard" our forefathers evidently intended not merely an inclosure of fruit-trees, but one that included the pleasure-ground of more modern days. Leland, in 1540, when describing Wreshill Castle, near Howden, in Yorkshire, says—"The gardens within the mote, and the Orchards without, were exceeding fair. And yn the Orchards were mountes, *opere topiario*, writhen about with degrees like the turnings in cockil shelles, to come to the top without payn" (*Itinerary*, p. 60). Such an arrangement, and such a combination of the useful with the ornamental, is as old as the time of Homer, and in his time it bore the same name, for he describes the garden of Alcinous under the title of his *orchatos*. It contained Pears, Apples, Pomegranates, Figs, Olives, and Grapes; but around these were beds of flowers and herbs, and the whole were inclosed by a hedge.

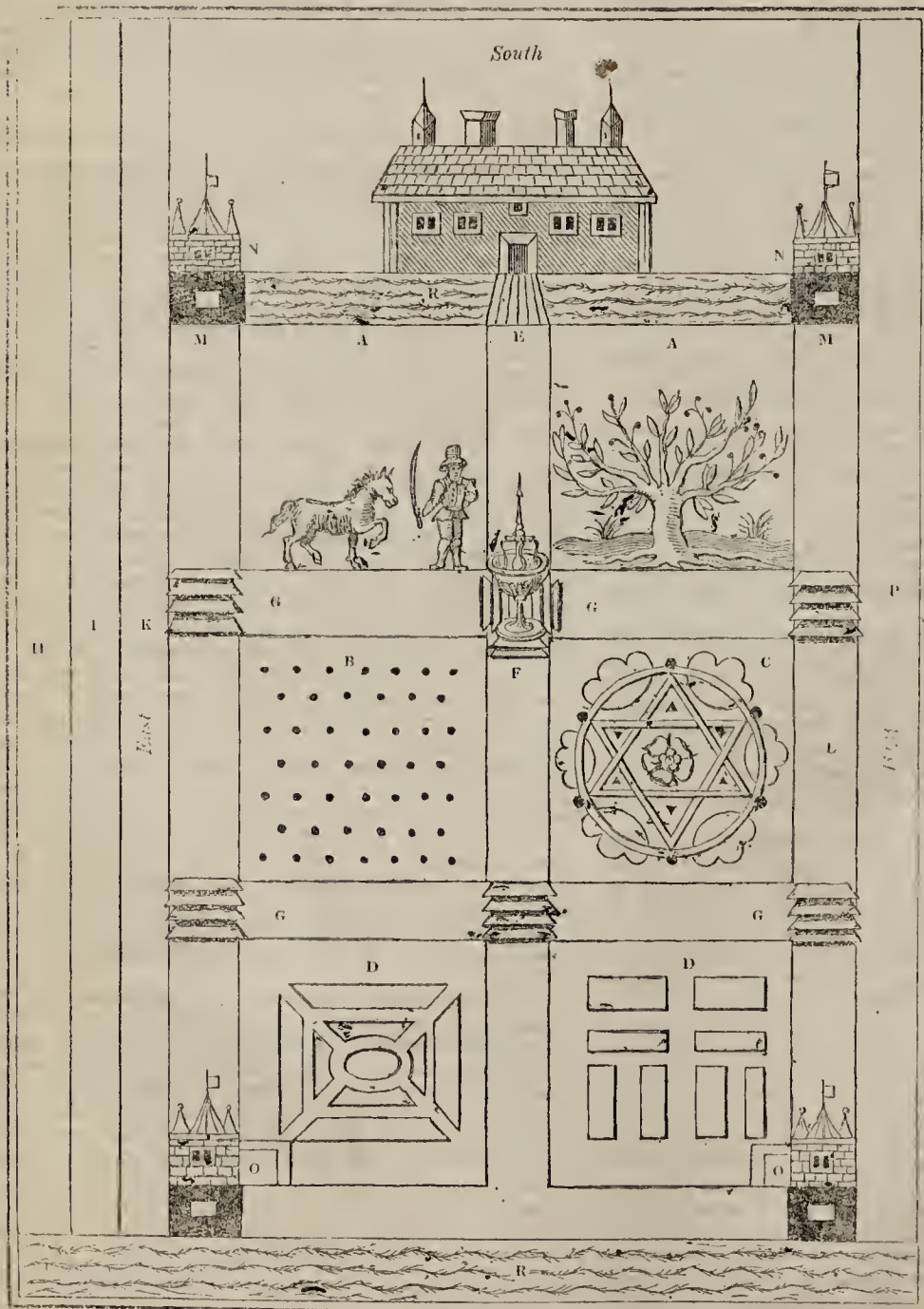
No light is thrown upon our subject by inquiring whether our word Orchard is adopted from the Greek or from the Anglo-Saxon. The former, *orchatos*, seems to be derived from *orchos*, signifying a regular arrangement in rows;

whilst the Anglo-Saxon, *ort-geard* or *wyrt-geard*, means an inclosure of cultivated plants or worts. The old English word *Orchard*, or *Orchat* (for it is spelt both ways), coincides with both derivations.

The *opus topiarius*, or ornamental work, mentioned by Leland, means trees, shrubs, and hedges, clipped or cut into unnatural and regular forms, the relics of which barbarism still linger about some old country residences, and more frequently in our clipped Quickset and Yew hedges.

Contemporary with Leland lived William Lawson, and the first edition of his "A New Orchard and Garden" was published in 1597. In this we have still more full information relative to the form and arrangement of the Orchard, and from it we derive the following extracts and illustration:

"Now for as much as one principall end of Orchards is recreation by walkes, and universally walkes are straight, it followes that the best forme must be square, as best agreeing with streight walkes: yet if any man be rather delighted with some other form, or if the ground will not beare a square, I discommend not any forme so it bee



- A All these squares must bee set with trees, the Gardens and other ornaments must stand in spaces betwixt the trees, and in the borders and fences.
- B Trees 20 yards asunder.
- C Garden knot.
- D Kitchen garden.
- E Bridge.
- F Conduit.
- G Staires.
- H Walkes set with great wood thicke.
- I Walkes set with great wood round about your Orchard.
- K The out fence.
- L The out fence set with stone fruit.
- M Mount. To force earth for a mount, or such-like, set it round with quick; and lay boughs of trees strangely intermingled, tops inward with the earth in the middle.
- N Still-house.
- O Good standing for Bees, if you have an house.
- P If the River run by your doore, and under your mount it will be pleasant.

formall. And a square may be drawn out of any form to make streight walks; and no forme of itselfe is either good or bad for the trees. If within one large square the gardner shall make one round labyrinth or maze with some kind of berries, it will grace your forme, so there be sufficient roomth left for walkes, so will foure or moe round knots doe. For it is to be noted, that the eye must be pleased with the forme. I have seen squares rising by degrees with staires from your house-ward, according to this forme which I have, *Crassa quod dicitur Minerva*, with an unsteady haud, rough hewen, for in forming the country gardeners, the better sort may use better formes, and more costly worke."

"What can your eye desire to see, your eares to heare, your mouth to taste, or your nose to smell, that is not to be had in an Orchard, with abundance and variety? What more delightful than an infinite varietie of sweet smelling flowers? decking with sundry colours, the green mantle of the earth, the universall Mother of us all, so by them bespotted, so dyed, that all the world cannot sample them, and wherein it is more fit to admire the Dyer, than imitate his workmanship. Colouring not onely the earth, but decking the ayre, and sweetning every breath and spirit.

"The Rose red, damaske, velvet, and double double province Rose, the sweet muske Rose double and single, the double and single white Rose. The faire and sweet senting Woodbinds, double and single, and double double. Purple Cowslips, and double Cowslips, and double double Cowslips. Primrose double and single. The Violet nothing belique the best, for smelling sweetly. And 1000 more will provoke your content.

"And all these, by the skill of your gardiner, so comely, and orderly placed in your borders and squares, and so intermingled, that none looking thereon, cannot but wonder, to see, what nature corrected by art can doe.

"When you behold in divers corners of your Orchard mounts of stone, or wood curiously wrought within and without, or of earth covered with fruit-trees: Kentish Cherry, Damsons, Plummes, &c. With staires of precious workmanship. And in some corner (or mo) a true dyall or clocke, and some anticko workes, and especially silver-sounding musique, mixt instruments and voices, gracing all the rest: how will you be rapt with delight?

"Large walks, broad and long, close and open, like the *Tempe* groves in *Thessalie*, raised with gravell and sand, having seats and banks of Camomile, all this delights the minde, and brings health to the body.

"View now with delight the workes of your owne hands, your fruit trees of all sorts, loaden with sweet blossomes, and fruit of all tastes, operations, and colours: your trees standing in comely order which way soever you looke.

"Your borders on every side hanging and drooping with Feberries, Raspberries, Barberies, Currans, and the rootes of your trees powdered with Strawberries, red, white, and Greene, what a pleasure is this? Your gardiner can frame your lesser wood to the shape of men armed in the field, ready to give battell: or swift running greyhounds: or of hunt sented and true running hounds, to chase the deere, or hunt the hare. This kinde of hunting shall not waste you corne, nor much your coyne.

"Mazes well framed a mans height, may perhaps make your friend wander in gathering of berries, till hee cannot recover himselfe without your helpe.

"To have occasion to exercise within your Orchard: it shall be a pleasure to have a bowling alley, or rather (which is more manly, and more healthfull), a pair of butts, to stretch your armes.

"Rosemary and sweet Eglantine are seemely ornaments about a doore or window, so is Woodbinde.

"Looke Chap. 5. and you shall see the forme of a conduit. If there were two or more, it were not amisse.

"And in mine opinion, I could highly commend your Orchard, if either thorow it, or hard by it there should runne a pleasant river with silver streames: you might sit in your mount, and angle a peckled trout, or sleightie eele, or some other fish. Or moats, whereon you might row with a boat, and fish with nets.

"Store of bees in a dry and warme bee-house, comely made of Firboards, to sing, and sit, and feed upon your flowers and sprouts, make a pleasant noyse and sight. For

cleanly and innocent bees, of all other things, love and become, and thrive in an Orchard. If they thrive (as they must needs, if your gardiner be skillful, and love them: for they love their friends, and hate none but their euemies) they will, besides the pleasure, yeeld great profit, to pay him his wages. Yea, the increase of twenty stocks or stooles, with other fees, will keep your Orchard. You need not doubt their stings, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongst them, you need not doubt them: for but neere their store, and in their own defence, they will not fight, and in that case onely (and who can blame them?) they are manly, and fight desperately. Some (as that Honourable Lady at Hacknes,* whose name doth much grace mine Orchard) use to make seats for them in the stone wall of their Orchard, or garden, which is good, but wood is better.

"A Vine over-shadowing a seat, is very comely, though her Grapes with us ripe slowly.

"One chief grace that adorne an Orchard I cannot let slip: a brood of Nightingales, who with their severall notes and tunes, with a strong delightfull voice, out of a weake body, will bear you company night and day. She loves (and lives in) lots of woods in her heart. She will help you to cleanse your trees of caterpillars, and all noisome wormes and flies. The gentle Robin-red-breast will helpe her, and in winter in the coldest stormes will keepe a part. Neither will the silly Wren be behind in summer, with her distinct whistle (like a sweet recorder) to cheere your spirits.

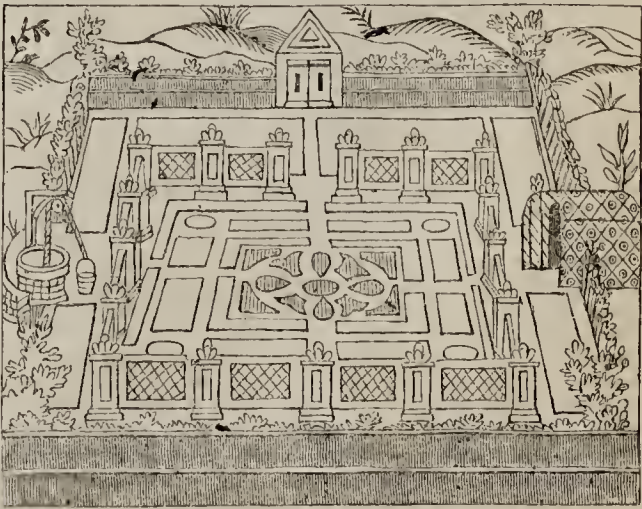
"The Black-bird and Threstle (for I take it the Thrush sings not, but devours) sing loudly in a May morning, and delights the eare much (and you need not want their company, if you have ripe Cherries or berries, and would as gladly as the rest doe you pleasure:) but I had rather want their company than my fruit.

"What shall I say? 1000 of delights are in an Orchard: and sooner shall I be weary, then I can reckon the least part of that pleasure, which one that hath and loves an Orchard, may find therein.

"What is there of all these few that I have reckoned, which doth not please the eye, the eare, the smell, and taste: and by these senses as organs, pipes, and windowes, these delights are carried to refresh the gentle, generons, and noble minde.

"To conclude, what joy may you have, that you living to such an age, shall see the blessings of God on your labours while you live, and leave behind you to your heires or successors (for God will make heires) such a worke, that many ages after your death, shall record your love to your country? and the rather, when you consider to what length of time your worke is like to last."

If we refer to the first part of "The Gardener's Labyrinth," published in 1594 by Henry Dethicke, though stated on the title-page to have been "gathered by Didymus Mountain," the friend of Dethicke, "lately entered," we there find other plans, such as the following, and which Thomas Hill, in 1608, copied in his "Arte of Gardening."



Barnaby Googe, in his translation of Heresbach's "Whol^o

* Hackness, near Scarborough, is still celebrated for its gardens.

Art and Trade of Husbandry," published in 1614, breaks forth into these loud praises of the arrangements then adopted:—"What a goodly sight is heere! How excellently have you garnished this paradise of yours with all kinds of pleasures! Your pleasant *arbours* to walk in, whose shadowes keepe off the heate of the sunne, and if it fortune to raine, the cloisters are hard by. But specially this little river, with most cleere water encompassing the garden, doth wondrously set it forth, and herewithall the greene and goodly *quickset* hedges, no chargeable kind of enclosures, differeth it both from man and beast. I speake nothing of the well-ordered quarters, whereas the Hearbes and Trees are severed every sort in their due place, the Trees and *Impes* in another quarter, all in just square and proportion, with *Allies* and walkes among them."

The "Arbour" thus praised by Googe is more particularly described by Didymus Mountain in "The Gardeuer's Labyrinth," already referred to by us. In that age of phouetic spelling, when every one spelt after the way of his owu ear, Mountain writes of it as follows:—



"The herber in a garden may be framed with Juniper poles, or the Willow, either to stretch, or to be bound together with Osiers, after a square forme, or in arch maner winded, that the branches of the Vine, Melone, or Cucumber, running and spreading all over, might so shadow and keepe both the heat and sun from the walkers and sitters there under. The hearbs erected and framed in most gardens, are to their much refreshing, comfort and delight. These two, as the upright, directed by quarters set in the earth, and leaning to the wall, neare to which faire Rosemarie, or the red Rose, set to run straight up, and the winding in arch maner, framed (as I uttered afore) with the Juniper, or Withie poles, to shadow the wallles there under. To this fastning the Vine, and sundrie hearbs, which in the growing up, runne and spread over the same, as the Bryonne, Cucumber, Gourd, and divers others, of which here under we shal more fullie entreat. But first I meane to speak of those hearbs, which the gardener planteth and ordereth to run for beauties sake in an upright herber: after to intreate of those, which he either soweth or planteth, to run over the winding or arch herber. The plants to run up, and serve comeliest for the straight herber, ought to be those of a fragrant savour, and that grow or shoot up high, and are spread abroad, which especially framed in garden for delight and pleasure, and these properly named wall hearbes, in that they are set in a maner leaning to the wall, with the quarters set upright, and plottes fastened overthwart, along the which, the Rosemarie, the Jasmine, and red Rose in many gardens, set to grow upright, which in time growing, beautifie an upright herber, although these cover not the same, through their shorter and lower growing than the herber: yet the commoditie ensueth by the herber, that the owners friends sitting in the same, may the freelier see and behold the beautie of the garden, to their great delight. The erection and garnishing of the winding herber may best be wrought with Juniper poles, in that these may well endure without repairing for tenne yeares: but those framed with the Willow poles, require everie three yeare to bee repaired.

"The owner or gardener that would set Rose-trees to runne up by the poles of the herber, ought workmanly to beginne and doe the same about the middest of Februarie, and in the first quarter of the moone, the beds before well reared with a stonie and drie earth, and not with dung. The Rose-trees with their rootes, are also to be planted in short and narrow beds diligently raised with a drie earth, but if the gardener or owner will, slippes may be broken off from the rootes, cut in a slope maner at the heades, about a mans foote and a halfe long, writhed at the ends, and so set in a slope maner, a foot deepe into beds, well reared with a drie earth, and in the encrease of the moone. The olde trees newe set everie fift yeare in the waine of the moone, take root the sooner, and yeelde the more Roses, being pruned and refreshed everie yeere with new and drie earth about the roots, for neither the slips nor old roots joy in a fat eleye, or moist ground, but in the drie and stony earth, and to bee sette in rankes well a foote distance one from another, in drie beddes well reared up: for bestowed in ranks of such distance betweene, they prosper the better,

and yeelde more Roses. The seedes of the Rose committed to the earth, doe slowly come up, yet so often as you minde to sowe the seedes, bestowe them a foote deepe in light and drie earth, about the middest of March with us, and in Februarie, in hotter places, the moone then increasing. Heere may any truly learn by the instruction of the worthy Neapolitane Palladius Rutilius, which are the seedes of the Rose: for a man (saith he) may not thinke the yellow graines within the Rose flower (being of a golden colour) to be them, but the knobs which grow after the maner of a most short and small Pearre, the seedes of which are then full ripe, when they be perceived brownish and soft, which will be in the moneth of September. The owner also may set the Jasmine-tree bearing a flagrant flower, the Muske Rose, Damask Rose, and Privet-tree, in beds of drie earth, to shoote up and spread over this herber, which in time growing not only defendeth the heate of the sunne, but yeeldeth a delectable smell, much refreshing the sitters under it. But this arche herber for any kinde of Roses, may not be built much above a man's heighth for the short growth of them. And as this herber is delectable to the eye, even so laborious, and with diligence to bee tended: for which cause the more number in England, plant Vines (for the lesser travaile) to runne and spread over the upright and square herbs, framed with quarters and polles reaching a breadth. After the hearbes seemely performed, in convenient places and walkes of the garden ground (heere meaning and speaking of the large plottes) the allies even troden out, and leavel, led by a line, as either three or foure foote abroad, may cleanly be sifted over with river or sea sand, to the end that showers of raine falling, may not offend the walkers (at that instant) in them, by the earth cleaving or elagging to their feete. The commodities of these allies and walkes, serve to good purposes, the one is, that the owner may diligently view the prosperitie of his hearbes and flowers, the other for the delight and comfort of his wearied miud, which he may by himselfe, or fellowship of his friends conceive, in the delectable sights, and fragrant smelles of the flowers, by walking up and downe,

and about the garden in them, which for the pleasant sights and refreshing of the dull spirits, with the sharpening of memory, many shadowed over with yawning or archaisms, having windows properly made towards the garden, whereby they might the more fully view, and have delight of the whole beauty of the garden. But the strait walks, the wealthie made like galleries, being all open towards the garden, and covered with the Vine spreading all over, or some other trees which more pleased them. Thus briefly have I touched the benefits of walks and allies in anie garden-ground: which the gardener of his own experience may artly tread out by a line, and sift over with sand, if the owner will, for the causes afore uttered."

We will conclude, for the present, with some explanations of the terms used by these quaint and earnest old gardeners.

A *Garden Knot* was neither more nor less than our modern Geometric Garden. In Lawson's "The Country Housewife's Garden," published in 1623, are several plans, which he calls "choise new formes"; and note this generally, that all are square, and all are bordered about with Privet, Raisins (Currants), Feaberries (Gooseberries), Roses, Thorne, Rosemarie, Bee-flowers, Isop, Sage, or such like." These "choise new formes" are appropriately called "Cinkfoyle," "Flowerdeluce," "Trefoyle," "The Fret," "Lozen-gers," "Crosse-bowe," "Diamond," and "Oval."

The term *Quickset hedge* deserves a passing note, for we daresay that few of our readers have stopped to consider that *quick-set* are only other words for *live-planted*, and were used originally to distinguish between a live, growing fence and a dead one. *Quick* and *Quickset* are now restricted to a hedge of the White Thorn; but formerly, and properly, it was applied to any live fence.

Impes, on a former occasion, we observed, was an early name for grafts; but, from the mode in which Gooze employs the word, it seems to have been applied to grafted stocks also.

We should have added a note upon the distinction between *Alleys* and *Walks*, but it seems to be sufficiently pointed out in our quotation from "The Gardener's Labyrinth."

NOTES FROM PARIS.

THE French people are, perhaps more than any other, distinguished for their *amour propre*, or strong national feeling. Whatever is French is sure to obtain their favourable consideration, under any circumstances; but if compared with what is not French, and found inferior to the other, it is cheerfully placed in the rank which it deserves. Their natural and excusable leaning never forms an impediment to the award of justice.

The French are proud of their army, and of its glorious achievements; of their public libraries, museums, and picture galleries; of their free schools, and their encouragement of the arts. They love to think that they are the most advanced people in the world; certainly the most amiable; and what is, however, very questionable at the present day, that they alone, of all others, understand politeness. But though, on these and sundry other points, they are perfectly satisfied with themselves and their position in the scale of nations, they do not wish to conceal the fact that they are far behind certain other countries as breeders of stock. Their inferiority in this respect has for some time been subject of complaint and discussion; but the recent Agricultural Exhibition, in showing the superiority of English breeds and English produce, not only over those of France, but of every other country, has greatly increased the general dissatisfaction which existed with respect to the present condition of high farming here.

Of the numerous articles which have appeared on this subject in the French journals, one contributed to the *Siccle* by M. Richard (du Cantal) is so good that, instead of troubling you with the details of the Horticultural Exhibition, which could have but very little interest for your readers, I send you a slight *aperçu* of M. Richard's observations.

After paying a well-merited tribute to the Government for getting up the Exhibition, and doing so much to promote the interest of agriculture, the writer remarks that the Exhibition has given an idea of the immense riches which

the French soil can produce when cultivated according to the laws of natural science. He reminds his readers that it is to the labours of such naturalists, botanists, and gardeners as Buffon and André Thouin (both at one time directors of the Garden of Plants) that so much success is to be ascribed. It is their knowledge of science that has advanced the art of the florist, the nurseryman, and the market gardener. The brilliant display of the Horticultural Society has shown to all the progress of French cultivation, and demonstrated the importance of scientific study. But M. Richard does not find much for congratulation as respects the turn-out of live stock; yet he is not of opinion that the material is wanting. For the production of milk, and even of butcher's meat, he cites the Flemish and "Colentine" breeds as being all that can be wished for; and he mentions several other breeds that are especially suitable for working the ground. The small cow of Brittany, too, which lives on the waste lands, is one of the best milkers. The several breeds mentioned, he states, if properly studied and improved, would answer every purpose, and take the lead of all the races in Europe. We do not see, says M. Richard, a single nation which could surpass us in this respect if we knew how to develop the resources which our numerous breeds from the north and south have brought before us in the recent Exhibition. But if we are at the head of all the nations of Europe with respect to the sort of material, England is incomparably superior to us, as she is to all other countries, by the admirable manner in which she has contrived to knead and mould, so to speak, the raw material to her will, according to her requirements, and the objects she has sought. The English raisers are *véritables artistes*, persevering observers, who model the living matter as a sculptor models a block of marble. Examine all their cattle raised for the meat market, for instance, no matter whether the kind be bovine, ovine, or porcine, and you find in every type of breed an analogy of conformation of the different parts of the body, which indicates a combination calculated for a definite end—that of producing flesh and fat in the best possible conditions which can benefit the raiser. Here M. Richard enters into some technical particulars, in order to explain himself more clearly. After showing the high perfection which the Durham breed has attained, and the surprising results which have been achieved, he remarks that the English have finished by *un tour de force*, in modifying even its temperament, so as to render it lymphatic, indeed, almost scrofulous, in order that the animal might be more likely to fatten.

M. Richard shows, in the same manner, the several merits of the sheep and pigs, and then states that the English cattle, comprising eight different breeds, have incontestably held the foremost rank in the Exhibition. But these breeds, he continues, are not all improved to the same degree; that from Kerry, for instance, is a small Irish breed, similar to our own race *Bretonne*, and would seem to belong to a country having some resemblance to *Bretagne* in its pasture lands; but it is inferior to ours. Our types (Bretons) were superior to the Kerries, and if an international jury had been named to establish a parallel between the two, we should have certainly beaten the English on this point.

M. Richard considers the Alderney cows somewhat distinct, and good milkers, but not better than any of the French breeds. But the Ayrshires, he states, are not only very fine, and very good milkers, but some of them are admirably turned as to symmetry, and even considered as for the meat market, many of them were faultless. He considers this small breed as one of the most valuable in England. Other writers here have mentioned it in the same terms.

The Herefords and the Devons, continues M. Richard, are other remarkable examples of the English mode of raising. They are more rustic than the Durhams. They, however, come very near that leading type in their conformation, and those qualities required for the market. Indeed, we have often seen the Devons, and especially Herefords, somewhat *Durhamised*, if we may be allowed the expression.

M. Richard concludes with the Angus breed, which he states will some day take the lead of all the others in England.

It was represented by thirteen males and twenty-six fe-

males, and was that which showed the most uniform characters as a distinct breed. They were all remarkable, not only for their beautiful conformation, but also for their *finesse*. They were the admiration of everybody; and we may say, if the Angus breed continues to be exhibited in the other agricultural gatherings as it has been this year in Paris, it will dethrone the Durhams; and for our own part, adds M. Richard, we should, perhaps, give it the preference.

—P. F. KEIR.

IMPLEMENTS OF THE ROYAL AGRICULTURAL SHOW.

THE extent of the Show will be understood by the following classification of the respective exhibitors:—

Barley awners	6	Mangles	22
Bean splitters	13	Manure distributors....	5
Bone mills	2	Mincing machines	16
Brick machines.....	9	Models	6
Carts	25	Mowing machines.....	8
Chaff cutters.....	46	Oat bruisers	4
Cheese presses	5	Oil-cake breakers	23
Churns	10	Pails and buckets	7
Clod crushers and rollers	25	Ploughs	32
Cooking apparatus	2	Pumps	17
Corn dressing machines	18	Rakes	9
Cultivators	15	Reaping machines.....	5
Draining implements ..	8	Rick stands	5
Drills	18	Sackboulders.....	4
Feucing	6	Saw tables	12
Fire engines	3	Scarifiers	10
Flour dressing machines	7	Seeds, roots, &c.	10
Flower stands.....	5	Sowing machines	3
Forges, and forge tools..	3	Spades, or shovels.....	8
Forks	7	Stable fittings	11
Garden implements	37	Stack pillars	7
Gates and posts.....	10	Steam cultivators	3
Gorse bruisers	3	Steam engines	31
Grinding mills	22	Steaming apparatus	6
Grubbers	3	Stoves, or ranges	5
Gutta percha	4	Subsoil pulverisers	10
Harness	3	Thrashing machines....	33
Harrows	17	Troughs	22
Haymaking machines ..	10	Turnip cutters	15
Hoes	3	Vegetable washers.....	2
Horse hoes.....	24	Wagons	8
Horse power	16	Washing machines	8
Horse rakes	17	Weighing machines	8
Hurdles	9	Wheelbarrows	8
Lifting jacks	5	Wheels and axles	4
Linseed and corn crushers	25	Whippletrees	7
Malt mills	7	Winnowing machines ..	13
Mangers and railway....	8	Wire netting	10

In addition to these, a large number of small articles were exhibited, which cannot strictly be classified under any one of the above heads.—*Essex Gazette*.

QUERIES AND ANSWERS.

GARDENING.

CROWFOOTS.—CUCKOO BUDS.—LINUM GRANDIFLORUM.—ANISANTHUS CUNONIA.—HIMALAYAN POPPY.

"Will Mr. Beaton be good enough to mention where *Ranunculus acris fl. pl.* is procurable, and at what rate? In his notice of this invaluable bedding-plant, Mr. B. says (page 202)—'There are not ten men in a parish who can tell a Buttercup from a single-flowered Bachelor's Button, * * * or from a bulbous-rooted Crowfoot, which is fully as common in the fields as the true old English Buttercups.' Is there any bulbous-rooted Crowfoot besides *R. bulbosus*? If so, I should be indebted to Mr. B. for a description of the points of difference between the two. May I also suggest a query, whether *Ficaria verna* or *Caltha palustris* will not answer better to Shakespere's 'Cuckoo-buds of

yellow hue' than Buttercups, coming, as they do, pretty nearly together with *Cardamine pratensis* and the sweet Violet?

"In reference to Mr. Beaton's suggested period for sowing *Linum grandiflorum*, I may mention that I sowed a shilling packet of seed in pots, in a light, airy greenhouse, about half on February 16, the rest about three weeks later. From one sowing I raised six plants, from the other five; two more came up, but died off immediately. The first bloom expanded June 5, and all were in flower by the end of the month. I had removed them in May from the greenhouse, which has, unluckily, no shade, to a frame, and, before they flowered, to the open air. I am allowing my plants to form their seed, as I greatly fear they will not turn out to be perennials. What does Mr. Beaton think on this last point?

"Is *Linum coccineum* of some seedsmen the same plant?

"I shall be very thankful for instructions for raising *Anisanthus Cunonia* from seed.

"There is a Poppy which I do not find in any catalogue under the only name by which I know it, viz., *Himalayan Poppy*. Its habit is much that of our English species, with pinnatifid leaves, not glaucous or succulent; the flowers on long, slender stalks, only semi-double; colour, crimson of all shades to white, with lovely mother-of-pearl reflections in the cup. A bed of them expanded under the mid-day sun was a beautiful sight. Can you from this description help me to the true name of this Poppy?—ANTIOMANES."

[We fear the double Crowfoot is not to be had in the trade yet; but they must get it, and in great abundance, for we mean to keep it under the trumpet till our gardeners are all served; meantime, ask it of all the nurserymen you deal with. There is no other bulbous-rooted Crowfoot, native of Britain, than the one mentioned, but there are two or three bulbous ones in the south of Europe, and there is one in Hungary; but all of them are merely botanically interesting, as far as we know. Shakespere was too good a naturalist to call *Ficaria* or *Caltha* "Cuckoo-buds." They do not bud at the coming of that "harbinger." You are quite right to save seeds of *Linum grandiflorum*; there is no doubt of its being only an annual. *Linum coccineum* and *Linum grandiflorum rubrum* are one and the same thing; the foolish and the fraudulent always give the highest colour to new plants. The seeds of *Anisanthus Cunonia* should be sown at the end of September, or, if you sow them in May, when they are ripe, or at any time through the summer, they will be idle till after the middle of September, which is their natural time to begin to sprout. The Himalayan Poppy is probably *Papavera amena*; at least, this comes nearest your description.]

HARDY FOREIGN FERNS.

"Will you kindly publish a list of Foreign Ferns hardy enough to bear the climate in an out-door Vinery in the south of England?—AN OLD SUBSCRIBER."

[The following will answer your purpose, and are all Foreign Ferns:—

Adiantum pedatum.	Osmunda cinnamomea.
Asplenium acutum.	" interrupta.
" Michauxi.	" spectabilis.
" rhizophyllum.	Platyloma falcata.
Botrychium fumarioides.	Polypodium Canariensis.
Cœnopteris Japonica.	" rugulorum.
Dicksonia piloriusecula.	" Virgiuanum.
Hypolepis Dicksonioides.	Polystichum acrostichoides.
Lomaria Magellanica.	Struthiopteris Germanica.
Onoclea sensibilis.	Woodwardia angustifolia.]

SEEDS OF PICEA NOBILIS.

"Having lately seen in your pages several notices regarding the cones and seeds of *Picea nobilis*, particularly a very earnest warning as to their treatment from 'W. B.' in your number for the 8th inst., may I venture to ask the said 'W. B.' if, in the case of his cone, which proved to be fertile, there was any artificial impregnation? and if the presence of the male blossom was distinctly apparent on the tree?

"These questions I ask from having a considerable interest

in the subject, having a tree of *Picea nobilis*, at present, carrying nearly fifty cones, and which was very largely covered with the bunches of male bloom. In fact, the main question is—Is artificial impregnation necessary, or, at least, prudent, in the case of the very evident presence of male blossom?—CONIFER.”

[In reply to your inquiry, the male bloom was not at all distinctly apparent on the plant of *Picea nobilis*; indeed, so little so, that I was advised, by a very respectable nurseryman, to impregnate artificially with some other species; but this I declined, preferring rather the seeds being barren than having hybrids, and I have no reason to suppose that it could have occurred accidentally; therefore, there must have been sufficient on the plant (male bloom), to a certain extent, for only about one-fourth of the seeds, or scarcely so many as that, appeared good. The cone contained more seeds than I ever observed in any other kind; although but five inches long, there were more than 300 seeds. I destroyed several of the best seeds by examining them before sowing, being doubtful of their fertility, from the fact of the fertilising matter being so scarce.]

My cone ripened early in October. The cones require careful watching at that time, for the cone, when ripe, will scarcely bear handling; it separates easier than any other I am acquainted with.

After cleaning the seeds, I kept them a month in a very dry, cool room, sowed them in November in very fine, sandy, peaty soil, well drained, in boxes three inches deep (at half an inch apart), gave a little water to settle the soil about the seeds, placed the boxes in a warm, airy place, to drain and evaporate nearly all the moisture from the soil, kept them in the coldest house I had till February, then put them into an early Peach-house, the Peach-trees being in bloom; night heat, 55°; day, 60° to 65°, with sun. This will explain how I lost a few by damp.

In April they were removed to a north house; early in June again into a south house. This explains the second growth. I may remark, the seedlings are still in the seed-boxes, and will never (by me) be put into very small pots. I do not like root corkscrews.—W. B.]

CAPE OF GOOD HOPE BULBS.

“Having received some bulbs from the Cape of Good Hope, I shall be glad to learn the best mode of growing them; in what soil and depth I ought to plant them; and the most suitable temperature to be kept up in a small conservatory for South African plants.—ERICA.”

[This is a bad time to receive Cape bulbs, but pot the large ones in sandy loam, merely covering the top of each, and the small kinds must have sandy peat to begin with, and to be planted half an inch deep, that is, the top of the little bulbs to be that depth below the surface of the pots. Use 48's for them, and put five of them in a pot; place the whole in a close, cold frame for the next two months, and the common temperature of a conservatory is warm enough for all the South African bulbs all the year round. Most of these bulbs begin to grow naturally in September, or a little later; therefore, give them no more water for two months than will keep the soil from being quite dry; but as soon as any of them show leaves increase the watering.]

LINUM GRANDIFLORUM CUTTINGS.

“I saw a patch of *Linum grandiflorum rubrum* in flower beautifully at Messrs. Henderson's nursery, Pine-Apple Place, about ten days since. Perhaps Mr. Henderson would be kind enough to tell us his treatment of it if you asked him through THE COTTAGE GARDENER. The propagator there told me he should try some cuttings of it; perhaps we might be informed of the result of his trial. It is an elegant little plant, and very beautiful in the mid-day sun.—JOHN SUMNERS.”

[There is no such plant as *Linum grandiflorum rubrum* known to science. The *Linum grandiflorum* is about as easy to manage from spring-sown seeds as the Mignonette; and we need not go begging to know its cultivation. It will doubtless come from cuttings readily enough, and “the result”

will be a good stock of store plants of it to flower next year. It is, certainly, a most elegant little plant, and deserves all the bother we have had about it. See what Mr. Beaton says about it to-day in another page.]

HARDY RHODODENDRONS.

“Being about to plant two or three good clumps of Rhododendrons in front of my house, please give me your advice as to the kinds or varieties you would plant in the autumn.

“I bought the other day a fine plant of the *Araucaria Brasiliensis*, about eleven feet high, and have it now plunged in my garden, but am at a loss how to protect it in the winter, being too high for my greenhouse; and I see in the DICTIONARY it requires protection. Can you advise me how to protect it in winter? I have an office; by taking down a couple of stairs, I could place it in so as to stand up the staircase; it would be in the dark, and how would that suit it?

“Being disposed to give my gardener ‘an out’ to Sydenham, in September, for a week, please say what places (gardens, &c.), there are in and near London that he could see.—SHROPSHIRE.”

[Plant the Rhododendrons in the autumn, by all means, and see the beds are thoroughly good for them. As to choice of kinds, that depends entirely on your purse. We would plant one-third of the best hybrids of *Ponticum*, one-third ditto of *Catawbiense*, and one-third of mixed hybrids from *Arboreum* and *Campanulatum*. The firm you mention is quite safe to deal with; and your best way is to think over how many plants you want, and state to that firm the price you would not like to exceed per dozen; or ask them how many plants of the above they would furnish for so much money. At all events, it is best to let them be responsible for the selection.]

You can do no good with the Brazilian *Araucaria*. What made you buy such a troublesome customer? Barter it away for Rhododendrons as soon as you can. Your gardener should see the principal nurseries round London; there is nothing very particular about Sydenham, after seeing the Palace and Garden.]

MOSSING POT-PLANTS.—EDWARDS AND CO.'S TALLIES.

“Be so good as to tell me whether, by keeping my pot-plants mossed over the surface soil, they would be likely to be at all injured, as I am desirous to adopt this plan to save the great evaporation this hot weather.

I some little time since wrote to you respecting a person from whom I had ordered and paid for a plant not sending it. In justice to that person, I now am glad to say, the plant arrived last week. I have now another case, not quite similar, but still one which, for the safety of the public, I think should be noticed. Mr. Edwards, of St. Paul's Square, Birmingham, advertised in your periodical, ‘Tallies,’ 1s. 8d. per 1000. I sent for a sample, which was satisfactory; and I forwarded with Post-Office order an order for 2000 at 1s. 8d., and 2000 at 3s. After having to write twice the ‘tallies’ came; but, instead of being as sample—running 12 to the inch, and 9 to the inch—they were all 16 to the inch. Of course, I and my friend were much disappointed at the difference in size; and I wrote to Messrs. Edwards what I considered a very civil letter, stating our feelings, and asking what we were to do, of course expecting they would have written, expressing their regret at their men's errors, and their willingness to make reparation, either by reducing the price, or sending some others of a fair substance; but I received no reply; and after waiting some fortnight, I again wrote, saying that I considered such treatment was unbusiness-like, and that the only way to make people safe in answering advertisements would be to expose all such cases as this was.

“I then received an answer, of which I send you a copy:—
“Sir,—You are a difficult man to please; we are quite sure that the tallies we sent are not to be matched for double the money. However, we would prefer having nothing to do with so captious a person, and if you will return the tallies you can have your money.—Yours, &c., (Signed)—E. EDWARDS & CO.’

"It is not the paltry sum of 10s. that I care about, but a principle is involved in such cases as these; and I look upon your truly valuable journal, having a circulation perhaps unequalled in the kingdom, and if such a system of deception cannot be stopped, I take it that persons will soon cease to take any notice of advertisements at all, because they so often are deceived in the execution of their orders; thus the innocent will suffer with the unprincipled.

"I shall be glad to hear your opinion on this case, and shall probably carry the case still further.—L. R. LUCAS, *Louth.*"

[Putting Moss over the surface of the soil in your plant-pots will not injure the plants.

We certainly think you have just cause for complaint, as you were led, from the advertisement, to believe that you were to receive tallies of such a thickness as to run nine and twelve to the inch; you were deceived by being supplied with those which were sixteen to the inch. We quite agree with you that respectable traders should not do such things, and far less reply in such terms when a complaint is made.]

TO WHICH CLASS DO I BELONG?

In the HALIFAX HORTICULTURAL AND FLORAL SOCIETY, the sixth rule provides that there shall be four classes of exhibitors, viz.:—

"1st. Gentlemen's Gardeners.

"2nd. Nurserymen and Sale Growers.

"3rd. Amateurs, Florists, and Cottage Gardeners employing artificial heat, or who occasionally employ an assistant.

"4th. Cottagers and Cottage Gardeners."

A *Subscriber*, who sends a copy of this rule, adds, "I beg leave to submit the following proposition to your decision, as to which of the above classes a person belongs, providing he grows his plants honestly in a cottage window, according to the rules of this Society, the person alluded to being employed under a gentleman's gardener?"

[If you refer to our 14th volume, page 361, you will find this very question answered. The person alluded to is clearly an under-gardener, and ought to compete in class 1. The object of the classification is to protect "Cottagers and Cottage Gardeners" from an unequal contest with those who have superior resources, and acquire skill by their employment in a gentleman's garden. In the case referred to us we should be inclined to think that the wisdom of the rule is illustrated; for we are much mistaken if our "Subscriber," though he cultivates "plants in a cottage window," is not more than a match for most "Cottagers and Cottage Gardeners."]

TO CORRESPONDENTS.

BACK NUMBERS (*M. C.*).—If you send direct to the office you can have all back numbers; but do not delay, and do not blame us for the neglect of others.

SWARMING OF BEES (*J. G.*).—Although your bees were prolific in a western aspect, we prefer a south or south-east one, in order that the hives may have the benefit of the morning sun. Your copious feeding may account for your swarm on the 11th of May, which is the earliest we have heard of this season. A "colt swarm" is of rare occurrence now-a-days, being a second one from a swarm of the current season. We cannot exactly understand the cause of your losing it by the "bees flying about in all directions." If they did not fly far off there was, probably, no queen with them; if otherwise, they may have lost her; the bees in either case would return to the hive. But there are often several queens in late flights, each having a small cluster of bees about her. In such cases it is best to collect them into one cluster, leaving the bees to choose a queen. If you want proper humane hives, see those advertised in *THE COTTAGE GARDENER*; but you may have pure honey from a common hive without destroying the bees by making a hole, on which you put a small hive or cap. It should be done before the hive swarms; and the best plan is to put the cap on a round, thin board, having a hole in it to admit the bees, by which means the treasure is easily taken away.—J. WIGHTON.

LINUM GRANDIFLORUM.—We are much obliged to *W. Boyd, J. L.*, and many others, for their notes; but the subject needs no further comment until a better supply of seeds has enabled more extended experiments to be tried.

RUDIMENTS OF GARDENING (*A Subscriber*).—We know of no book such as you require. One or two of our "Manuals," shortly to be published, will supply your wants.

BOOK ON GARDENING (*W. W.*).—We answer all letters that we receive. *THE COTTAGE GARDENERS' DICTIONARY* would suit you. It is the common Forget-me-not at Trentham.

FRUIT-GARDEN (*J. R. Potter*).—We shall publish a "Manual" which will just meet your wishes.

GROWING MUSHROOMS, AND FORCING IN BOXES (*A. K.*).—You will see an article by Mr. Robson, on Mushrooms, applicable to your case; and as the winter advances, if your boxes are not in a Mushroom-bearing state, they may be planted with Sea-kale and Rhubarb as you propose, reserving one or two for *Chicory*, which is a useful winter salad plant; and as you say you can command an average heat of 60°, you may force *Asparagus* very well there; in fact, there are many ways of using such boxes at that time. But your present duty now is to see to the *Sea-kale*, *Chicory*, and other plants likely to be used in winter, and by encouraging their early growth, tend to their early maturity, and the difficulties or uncertainties of forcing are thereby much diminished; but, in fact, with the vegetables named, there is no difficulty, if only warmth be forthcoming. The other conditions are simple enough.

STRAWBERRIES (*T. N.*).—On the composition and situation of the soil depends whether the *British Queen*, or any other variety of this fruit, degenerates in it after growing on the same site for several years. In a light, upland soil we have known the site require to be changed every third year; whereas we know some low-lying, alluvial soils where the same Strawberry-beds have been in full production for sixteen successive years. There is only one *British Queen*, either among sovereigns or Strawberries; any respectable nurseryman can supply the latter.

LINUM GRANDIFLORUM (*B. W. R.*).—Your flowers of *Linum grandiflorum* are quite true. They came quite fresh, and they confirm our judgment. Any one who sees red or scarlet in these flowers has no eye for colour. Dark crimson with a tinge of violet is the way to express the colour of your flowers; but generally they are not so deep.

WHEAT GRUB.—The minute orange-coloured grubs in the ears of Wheat (commonly called the *Yellows*), sent by *J. C.* from the south-east part of Surrey, are the well-known larvae of the Wheat Midge (*Cecidomyia Tritici*), and the little black flies (*Platygaster Tipula*) are the enemies of the Midge. We know no means of cleansing the growing crop; but much benefit may be obtained both to the crop after it has been thrashed, and to the next year's plants, by the use of Professor Henslow's Midge Sieves.—W.

CUCKOO SPIT (*J. S.*).—Remove this from your Strawberries by your finger and thumb.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

ANERLEY. July 29th, 30th, 31st, and August 1st. Sec., C. Lawson Esq., Anerley. Entries close July 9th.

BRIDLINGTON. August 27th. Sec. Mr. T. Cape, Bridlington.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs.

G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. Nov. 26th and 27th. Sec., E. Trinder, Esq., Cirencester. Entries close Nov. 1st.

LEOMINSTER. Thursday, October 16.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan,

Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S.

Marshall, Esqs. Entries close July 24th.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856.

Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.

YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.

N.B.—Secretaries will oblige us by sending early copies of their lists.

THE ROYAL AGRICULTURAL SOCIETY'S EXHIBITION.

IF there be any truth in transmigration of souls, and if at any time we are to become a member of the gallinaceous tribe, and as such to be exhibited, we should choose the Royal Agricultural Society's Show, if the choice were left to us. The season of year, the long days, the fresh air, and the *éclat* of the scene, together make up an exhibition which has not its equal. Till poultry was joined to it there was a "lack;" but that is supplied, and all the denizens of the farm-yard are now well represented, as they should be, at an agricultural meeting. Many causes prevent this from being a numerous Show; but the liberality of the prize-list will always bring the best birds, and thereby answer the purpose the Society has in view. Those who have but few fowls will hardly dare to exhibit them in July,—this is one cause, and another is, that there are no sales.

The Royal Agricultural Society of England may be well content with its success, inasmuch as it brings into competition the great amateurs and breeders of poultry, and affords to those most interested the opportunity of profiting by the result of their efforts.

There is one suggestion we would offer, which is, that

they be less stringent about the ages and the breeders of poultry. There are but two ages—less than twelve months, or exceeding that term: therein consists the difference between chickens and adults.

It is utterly impracticable to keep the genealogies of fowls and ducks with the same correctness as those of bulls, horses, pigs, or sheep. It may be done in chickens; but it is impossible in the adult birds. There is another peculiarity in this Show: the Judges are desired, in every class, to name a *reserve*, in order that, in the event of a successful one being disqualified, a substitute may be ready without any re-judgment.

Our business is with poultry only, but we cannot forbear one word on the beauty of the scene, and the excellence of all the arrangements. The machinery in motion, the numbers of beautiful animals of all breeds, and the novelty of foreigners as Judges, spectators, and attendants on cattle, formed a *coup d'œil* that will not easily be forgotten. And the good town of Chelmsford was not behind in its testimony to the magnitude of the occasion. The Town Hall was brilliantly illuminated with gas; arches of evergreens spanned the streets; and every flag that has appeared in London—Union Jack, tricolor, Turkish, Sardinian, allied, or others—did duty for the occasion. Acrobats, jugglers, musicians, vocalists, and performing animals filled the streets, and every one seemed to enjoy the meeting as a treat.

The poultry, as usual, were in a long single row of pens, occupying the length of the ground, and the luxury of space was never more exemplified for the comfort of the spectators and the birds than it was here, since it enabled the authorities to place a strong barrier in front, thus insuring air to the fowls, and enabling visitors to see them much better than they could have done had they been pressed close to them.

We begin with *Dorkings*. Captain Hornby took first in each class. We may here remark that this gentleman eclipsed himself. He sent four pens, and took four first prizes; and it was no mean triumph to overcome such an opponent as Mr. G. Botham, or the Rev. T. L. Fellowes. These gentlemen were second; and we were very glad to see a third prize awarded to a pen from Scotland. The chickens were declared to be a very good class, and the adults good. As we do not pretend to name every prize taken, seeing that space will not allow it, we must confine ourselves to the more salient points, and refer our readers to the prize-list we published last week for details. There was close competition for the prizes for the best Dorking Cock. Mr. Akroyd, of Otley, was first; Mr. Fisher Hobbs, second.

Captain Hornby's *Spanish* were beautiful, gaining an easy victory, although a well known name, the Rev. Morton Shaw, was second. This latter gentleman took the prize for the single Spanish Cock.

The Judges were again compelled to speak very highly of the *Cochin China* class. These birds are evidently regaining the ground they have lost. One of the early and best exhibitors, Mr. Punchard, was first, and the Rev. G. T. Hodson second.

There was a large and excellent entry of *Game Fowls*, forming an exhibition in themselves. Captain Hornby was again first; and an idea of the competition may be formed when we say that the second prize went to Mr. Glover, Warwickshire; third to Mr. Adkins, Birmingham; and fourth to Mr. Thurnall, of Cambridge.

The name of Mr. Dixon, of Bradford, is associated with success in *Pencilled Hamburgs*; but in the *Golden* he was second to Mr. J. Lowe, of Birmingham; in *Silver* he was first, followed by the Rev. T. L. Fellowes. Had not Mr. Mapplebeck taken a second prize, Mr. Dixon would have swept all the *Spangled* classes.

Three well-known names took the first prizes for *Polands*, Messrs. Coleridge, Bush, and Adkins. Mr. Weston had all the honour of *Aylesbury Ducks*, and first for *Rouens*, followed by the Rev. T. L. Fellowes and Mr. Punchard. Every praise is due to Mr. Cooke, of Colchester, the steward of the poultry.

The Judges were G. J. Andrews, Esq., Dorchester; and Mr. Baily, London.

THE DOVE-HOUSE PIGEON.

COLUMBA AGRESTIS.

French.

German.

PIGEON BISET DE COLOMBIER.

DIE GEMEINE FELDTAUBE.

THE chequered or dappled Dove-house Pigeon, the *Columba affinis* of Blyth, is the commonest and most widely diffused of all the various kinds of Pigeons. They are found wild in most parts of the old world, and are by far the most frequent occupants of the dovecots or pigeon-houses in this country, as well as other parts of Europe and Asia. The fact of their being often found in a state of nature, haunting rocks and cliffs like the Blue Rock, is a frequent cause of their being mistaken for that Pigeon; but their difference in plumage, and greater susceptibility of domestication, mark them as distinct.

The Dove-house Pigeon is the sort most usually used for shooting-matches, and then rejoice in the inappropriate title of best Blue Rocks; they are also called Duffers and Rockeys, and are too well known to require a minute description. They may be taken as the standard size of Pigeons generally, most of the tame kinds being rather larger. Their beaks are thin, dark horn coloured, and dove-shaped; their eyes gravelly red; the feet smooth, scaled, and deep red coloured, though the young ones have the scales of the feet of a blackish shade, which is frequently the case in many other tame sorts; the general colour of their plumage is a blackish-slate colour, the greater wing coverts being tipped with bluish-slate, so as to give them the chequered or dappled appearance from which they derive their name, *Dachschieferish*, as the Germans call it; the necks are glossed with green and purple reflections; the rump and vent slate coloured; the tail banded with black, the external feather on each side has a bluish-white mark on the outer web.

They are very prolific, often rearing, if well cared for, as many as eight, and even ten broods in the year. If the young are brought up by hand or mouth they can be made exceedingly tame: with the exception of the Tumbler, I know of no kind that is capable of being made so docile, the tamest Pigeons I have ever known being of this kind and of the Tumblers.

Although so susceptible of domestication, these Pigeons are, in their untutored state, exceedingly wild and shy, which, combined with their quickness and great power of wing, causes them to be favourites with pigeon-shooters.

Although, if much disturbed in their lodging, or their abode becomes uncomfortable from some other cause, they will occasionally desert it (but such occurrences are rare), these houseless Pigeons frequently join a neighbouring dovecot, where they feel more at ease; or, joined by any Pigeons that may have lost their home (probably some brought from a distance, and let out by some inexperienced pigeon-keeper before they have become acquainted with their new dwelling), they betake themselves to some ruin, tower, or steeple, or even to the eaves and cornices of some public building, where birds of this description may frequently be met with; or, in mountainous districts, they will betake themselves to the rocks, and join any colony of wild birds that may happen to be there. Although a naturally timid bird, the Dove-house Pigeon does not, like the Blue Rock, shun the abode of man.

Naturalists ever endeavour to trace the different breeds of any one genus of our domesticated animals to one original source. The propriety of such a theory I shall not endeavour to discuss; but in respect to Pigeons, I do not think it can be satisfactorily shown how all the varied breeds of fancy Pigeons could possibly have sprung from one common origin; and it is stated on the authority of several German writers, that the Fautail and Barb, though they produce together, yet their young are not fertile *inter se*, which at once proves their distinctness; but among the Toy Pigeons (whose only property is feather), there are many that appear to be direct descendants of the Dove-house Pigeon, the variations being, in their case, easily accounted for by the effects of domestication, or the mingling of other tame breeds.

The common Runts, or Mongrels, *Columba miscella* (Varro), are too numerous and too varied to admit of a description.

They are the produce of the accidental or promiscuous mixture of any two or more varieties, and, consequently, under one circumstance resemble one breed, and under another a different sort; they are everywhere the commonest or most numerous; are generally excellent breeders; many of them are kept in dovescots, and are capable, like the Dove-house Pigeon, of providing for themselves in the fields.—B. P. BRENT.

THE HOUSEHOLD.

HOW TO DETERMINE THE HEIGHT A COLT WILL ATTAIN WHEN FULL GROWN.—Mr. J. R. Martin, of Lexington, Kentucky, gives out the following upon this point:—"I can tell you how any man may know, within half an inch, the height a colt will attain to when full grown. The rule may not hold good in every instance, but in nine cases out of ten it will. When the colt gets to be three weeks old, or as soon as it is perfectly straightened in its limbs, measure from the edge of the hair on the hoofs to the middle of the first joint, and for every inch, it will grow to the height of a hand of four inches when its growth is matured. Thus, if this distance be found sixteen inches, it will make a horse sixteen hands high. By this means, a man may know something of what sort of a horse, with proper care, he is to expect from his colt."

HOW TO WASH FLANNEL.—Some washerwomen possess quite a *knack* in washing flannels, so as to prevent it fulling. It is not the soapsuds nor rinsing waters that thicken up flannel in washing, but the *rubbing* of it. Cloth is fulling by being "pounced and jounced" in the stocks of the fulling-mill with soapsuds. The action of rubbing flannel on the wash-board is just the same as that of the fulling-mill. Flannel, therefore, should always be washed in very strong soapsuds, which will remove the dirt and grease, by squeezing, better than hard rubbing will in weak soapsuds. It should also be rinsed out of the soap in warm water, and never in cold, as the fibres of the wool do not shrink up as much in warm water after coming out of the warm soapsuds. Great care should be taken to rinse the soap completely out of the flannel. This advice will apply to the washing of blankets, the same as it does to the washing of flannel.

WHITE COLLOPS.—Cut your collops as thin as you can off a leg of veal, put a little butter in your pan, set it upon a slow fire, put in your veal, keep stirring it till it turns white; then put in some mace and nutmeg, a little lemon peel, onion, and anchovy, all finely shred, and a little white wine when the collops are tender; then put in a little flour to dry up the gravy; and then some cream, according to the quantity of collops; add force-meat balls, which must be boiled.

TO MAKE A LEMON CAKE.—Half a pound of lump sugar beat and sifted, six eggs, take half the white out, and whisk them to a froth; add the sugar by degrees, and whisk it an hour and a half; then add six ounces of flour, well dried and sifted, with the rind and juice of a lemon, or a large spoonful of rose-water; the flour must not be put in till just going to the oven.

RATAFIA PUDDING.—Take six sponge cakes, soak them in white wine; then make a custard, and pour it over them; then put them in the mould, steam them for twenty minutes—make a nice sauce with wine, melted butter, and sugar, pour it over the pudding in the dish; and put either a row of ratafia cakes round the top, or raisins.

GINGERBREAD NUTS.—To two pounds of sifted flour put two pounds of treacle, three quarters of a pound of moist sugar, half an ounce candied orange peel cut small, one ounce and a half ground ginger, the same of allspice, carraway, and coriander seeds, three quarters of a pound of butter oiled; mix altogether, set it by for some time; then roll it out into pieces about the size of a large walnut, lay them in rows on a baking plate, press them flat with the hand, and bake them about ten minutes.

GINGERBREAD.—Two pounds of flour, sixteen ounces of butter, two ounces of ginger, one ounce of cloves, twelve ounces of sugar, a little lemon peel, as much treacle as the ingredients take to mix up.

GINGER CAKES.—One pound of flour, half a pound of butter, half a pound of loaf sugar, a quarter of an ounce of Jamaica ginger, and two eggs.

OUR LETTER BOX.

COCHIN-CHINA CHICKENS (J. Y.).—If, instead of rice, you give them barley or wheat, you could not further improve their dietary. They naturally feather slowly, especially the cockerels.

HENS DYING SUDDENLY (Subscriber).—They unquestionably died from over-fatness. Chickens should be fed under a coop adjoining their mother, and so that she cannot get at their food. They require a highly nourishing diet; but she, on the contrary, a cooling and non-fattening diet. Whilst the chickens are having eggs boiled hard, barleymeal, and wheat, the mother should have little barleymeal, but plenty of boiled potatoes and boiled rice.

FEEDING CHICKENS (D. P.).—Feed them four or five times a day. A little at a time, and often, is the best.

PIGEON COTE (Idem).—The oftener it is cleaned out the better for the pigeons.

CREVE CŒURS (J. S.).—The name of the party and his direction are quite genuine. It is too late to sit hens now. We have repeatedly stated the mode to be adopted to cause hens to cease from being broody.

LONDON MARKETS.—JULY 28TH.

COVENT GARDEN.

Supply well kept up, and a moderate, regular demand during the past week, which has been particularly favourable for the getting in of all the preserving fruits now ready, causing great activity in some branches, more especially the retail dealers, who find an increasing demand from all those families that turn their attention to having *genuine* preserves, which are difficult to be met with, except they are done under home superintendence. This, we are happy to find, is largely increasing, and we have no doubt will meet with corresponding favour. The importation of foreign *Pines* nearly 100,000 this week. *Potatoes* now come to hand in large quantities, and among them some excellent *Regents*.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz.....	6d. to 9d.
" dessert	12s. ,, 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen	1s. ,, 3s.	Potatoes, per cwt.	3s. to 6s.
Peaches, per doz.	10s. ,, 20s.	" Frame, per lb. 6d. ..	0d.
Nectarines, do.	10s. ,, 20s.	" New, per lb. ..	2d. ,, 4d.
Pine-apples, per lb.	6s. ,, 10s.	Onions, Y'ng, per b'nch. 4d. ..	6d.
Hothouse Grapes, per lb. 3s. ..	6s.	" Old, per bushel 5s. ..	7s.
Strawberries, per lb. 3d. ..	1s.	Turnips, per bunch..	9d. ,, 1s.
Foreign Melons, each 2s. ..	5s.	Leeks, per bunch	2d. ,, 3d.
Wall Cherries, per lb. 1s. to 1s. 6d.		Garlic, per lb.	6d. ,, 8d.
Cherries, per lb.	6d. ,, 1s.	Horseradish, per bundle	1s. 6d. to 2s. 6d.
Oranges, per 100	4s. ,, 10s.	Shallots, per lb.	6d. to 1s.
Seville Oranges, do.	6s. ,, 12s.	Lettuce, Cos, each	6d. ,, 8d.
Lemons	6s. ,, 12s.	" Cabbage per doz. 2d. ..	3d.
Almonds, per lb.	2s. ,, —s.	Endive, perscore ..	1s. 6d. ,, 2s.
Nuts, Filberts, per 100 lbs.	50s. ,, 60s.	Celery, per bunch.	9d. to 1s. 6d.
" Cohs, ditto ..	80s. ,, 100s.	Radishes, Turnip, per dozen bunches	— to 6d.
" Barcelona, per bushel.....	20s. ,, 22s.	Water Cresses, ditto..	6d. ,, 9d.
Nuts, Brazil, ditto..	12s. ,, 14s.	Small Salad, per punnet	2d. ,, 3d.
Walnuts, per 1000 ..	9s. ,, 12s.	Artichokes, per lb.	— ,, 2d.
Chestnuts, per bushel 15s. ..	24s.	Asparagus, per bdl.	3s. ,, 5s.

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.	HERBS.	
" Red, per doz.	2s. to 4s.	Basil, per bunch	4d. to 6d.
Cauliflowers, each	9d. ,, 1s.	Marjoram, per bunch	4d. ,, 6d.
Brocoli, per bdl.	3d. ,, 6d.	Fennel, per bunch ..	2d. ,, 3d.
Savoy's	1s. ,, 2s.	Savory, per bunch ..	2d. ,, 3d.
Greens, per doz. bunch. 4s. ..	6s.	Thyme, per bunch ..	2d. ,, 3d.
Spinach, per sieve ..	— ,, 4s.	Parsley, per bunch ..	2d. ,, 3d.
French Peas, per hshl. 6s. ..	10s.	Mint, per bunch	2d. ,, 4d.
French Beans, per 100 1s. ..	2s.	Green Mint	6d. ,, 8d.
Carrots, per bunch ..	9d. ,, 1s.		

POULTRY.

The demand for poultry gets less daily. The London season is drawing to a close. The great heat of the weather makes senders shy, and field occupations take precedence of poultry-feeding for a time in the country. Any change in price will now be a diminution.

Large Fowls 6s. 6d. to 7s. 0d. each.	Pigeons	9d. to 10d. each.
Smaller do 4s. 0d. to 5s. 0d. ,,	Quails	2s. 3d. to 2s. 6d. ,,
Chickens .. 2s. 9d. to 3s. 3d. ,,	Leverets ..	4s. 0d. to 5s. 6d. ,,
Goslings	Rabbits	1s. 5d. to 1s. 6d. ,,
Ducks	Wild Ditto ..	10d. to 1s. 0d. ,,

WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 5—11, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
5	Tu	Lycæna Argiolus.	30.022—29.929	73—41	S.W.	—	32 a 4	40 a 7	9 20	5	5 41	218
6	W	PRINCE ALFRED BORN, 1844	30.062—29.866	73—55	S.	.11	33	38	9 29	6	5 35	219
7	Th	Hesperia Comma.	29.755—29.664	73—56	S.W.	.44	35	36	9 41	7	5 28	220
8	F	Smerinthus ocellatus.	29.650—29.626	72—54	S.W.	.50	36	34	9 55	8	5 21	221
9	S	Smerinthus Tiliae	29.918—29.828	71—38	W.	.00	38	32	10 13		5 12	222
10	SUN	12 SUNDAY AFTER TRINITY.	30.151—30.043	76—49	W.	—	40	31	10 38	10	5 4	223
11	M	Sphinx Elpenor.	30.201—30.145	80—56	W.	—	41	29	11 17	11	4 54	224

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 74.2°, and 51.4°, respectively. The greatest heat, 93°, occurred on the 10th, in 1842; and the lowest cold, 36°, on the 6th, in 1833. During the period 114 days were fine, and on 82 rain fell.

LASTRÆA FILIX-MAS.



THIS has been called by various botanists a *Polypodium*, an *Aspidium*, a *Polystichum*, and a *Dryopteris*; but in every instance they adopted the specific name, *filix-mas*, because it is the acknowledged “Male Fern” of our most ancient herbalists. *Male Fern* is its most generally admitted English name; but it has also been called *Male Polypody*, *Male Shield Fern*, and *Common Buckler Fern*.

Root black, tufted, scaly, large, with numerous dark brown, deeply-penetrating rootlets. Fronds several,

rising in a circle, erect, from two to four feet high. The general outline would be spear-head-shaped, if the lowest pair of leaflets were not much shorter than those next above them, rendering the form more ovate, but pointed. Less than a fifth of the stem is without leaflets, but this unleafted portion is covered with a profusion of chaffy scales, which extend, indeed, over the entire stalk and mid-ribs. Leaflets alternate, very equal in width until near their point, when they rapidly taper to a point. Leaflets oblong, blunt, roundish-toothed, numerous, crowded, stalkless, for the most part distinct, but sometimes rather united at the base; both surfaces smooth, but there is an indent on the upper surface, over the place where is each mass of fructification. Fructification in circular masses, tawny, ranged closely in short rows near each side of the lower half of the mid-rib of each leaflet; cover (*indusium*) kidney-shaped, durable, scolloped, swollen, with a cleft terminating in the centre. Spores numerous, shining brown, prominent, round, and just beyond the edge of the cover.

Three varieties of this Fern occur, and have been thus well particularised by Mr. Charles Johnson:—

“1. *incisa*. Frond robust, broadly lanceolate: pinnae distant; pinnules distinct, elongate, narrow, acuminate, deeply incised, the lobes serrated. Sori extending nearly the entire length of the pinnules. *Lastrea Filix-mas*, *β. incisa*, Moore, *Handbook Brit. Ferns*, 50. *Aspidium Filix-mas*, *β. erosum*, Hooker and Arnott. *Dryopteris affinis*, Neuman, *Hist. Brit. Ferns*, 187.

“2. *abbreviata*. Frond small, lanceolate, pinnate. Sori confined to the base of contracted or obsolete pinnules, forming a linear series on each side of the mid-vein of the pinnae. *Lastrea Filix-mas*, *β. abbreviata*, Babington. *Polystichum abbreviatum*, De Candolle.

“3. *Borreri*. Frond narrow lanceolate. Rachis clothed with ruddy-golden scales and hairs. Sori few, large, two or three pairs at the base of each pinnule. *Dryopteris Filix-mas*, var. *Borreri*, Newman, *Hist. Brit. Ferns*, 189.

“Of these, the variety *incisa* is far from uncommon; *abbreviata* has been found on Ingleborough, Yorkshire, on the basaltic cliffs of Teesdale, and in the Peak district, Derbyshire, everywhere apparently in dry localities; *Borreri* seems to be common, though first observed by Mr. Borrer, in Devonshire, as a variety ‘with more copious and brighter-coloured scales on the rachis, and with a bright golden-yellow tinge on the whole frond.’ *Brit. Flora*.

“*Abbreviata* retains its distinguishing features in all soils and under different treatment in cultivation, and may perhaps eventually prove a separate species.” (*Sowerby's Ferns*.)

This is too common a Fern to require the places where it is found to be particularised; indeed, the difficulty would be to find any wide-extended district where it could not be discovered.

Mr. W. Reeve observes upon this Fern, that it is a

most desirable plant for furnishing the rockery and vacancies and corners in the shrubbery, and other such-like places. A few hints may not be out of place for its culture. It is one of the finest growing of the British species, and one that will make a noble object when once established. The treatment it requires is merely a moderate space for its roots, in a compost of sandy loam three parts, with one part of leaf-mould, and a free supply of water during its growing season. This compost will suit it for either pot culture or for cultivating it in the open air. When growing in pots, these had better be plunged in some loose substance during the winter months. It may be increased very freely from seeds, which will be in a perfect state soon after Midsummer. Like many other Ferns, this will look much nobler when planted out in the spring. If planted in mass upon an irregular surface, say from six to eight strong plants in a clump, with a few large white flints or pieces of rock laid in between and about them, it will add to the appearance. Although this Fern will stand a little sun, yet it flourishes much better in the shade.

Although some medical practitioners have no faith in this Fern as a destroyer of worms in the human intestines, yet other authorities maintain that it is the most powerful medicine we possess for that purpose, and it was so esteemed by some of the most ancient physicians.

"Dr. Peschier, of Geneva, found that sulphuric ether extracted the active principle of the Fern. The solution, left for some time at rest, yielded a macellated substance, which, on being freed by pressure from the liquid with which it was impregnated, was found to be an adipocire. The liquid was, in consequence of its separation, thinner, had a greenish-brown colour, a disagreeable taste without being acrid, a nauseous smell, and reddened litmus paper. By further analysis the whole products of the Fern are, adipocire, a brown resin, an aromatic volatile oil, an aromatic virose fixed oil, a green colouring principle, a reddish-brown principle, extractive, muriate of potash, and acetic acid.

"The root was used as an anthelmintic in the days of Dioscorides. It gradually became neglected, but its use was again revived, at different times, by Madame Nuffer, Ferrenschwand, and others, who frequently succeeded in killing and expelling the tape worm by the exhibition of secret remedies, of which the Fern powder was the principal ingredient. To kill a tœnia, about three drachms of the powder of Fern are required. Dr. Peschier found that this quantity yielded three drops of oil, or twenty-four grains. This may be made into pills, or mixed up in the form of an emulsion; and as it is necessary to be given when the stomach is as empty as possible, one half may be given at night, and the other half in the morning, on the empty stomach. It is immaterial whether a purgative be given with it or not. By this method Dr. Peschier assures us, that he had succeeded in 150 cases of tœnia. Others have also given information; and M. Studer expelled, in one case, *Tricocephalus dispar* of Bremser, which resists all other known anthelmintics." (*Duncan's Edinburgh Dispensatory*.)

The above is not the only use to which this Fern is applied, for the Siberians are fond of the flavour which it imparts to ale, and its ashes contain so much potash as to be especially valuable to the soap and glass-maker. In Norway the young fronds, before they uncurl, are boiled and eaten like Asparagus, and in hard winters the dried fronds are there soaked in hot water and given as fodder to cattle.

The superstitions of old connected with this Fern very widely prevailed, and have been rendered classial by Shakspeare and other writers. "This Ferne," says Lyte in his *Herbal*, published in 1578, "beareth neither flowers nor seede, except we shal take for seede the blacke spottes growing on the backside of the leaves, the whiche some do gather, thinking to work wonders, but to say the truth, it is nothing els but trumperie and superstition." Baulin, writing in 1650, in his *Historia Plantarum*, says, "These black spots fall about the festival of St. John (June 25), and are collected by certain women and sold as *Ferne-seed*. I will not relate the follies and superstitions practised with this seed."

"*Ferne-seed*," says Grose, "is looked on as having great magical powers, and must be gathered on Midsummer Eve. A person who went to gather it reported that the spirits whisked by his ears, and sometimes struck his hat and other parts of his body; and, at length, when he thought he had got a good quantity of it, and secured it in papers and a box, when he came home he found both empty." [Bovet, in his *Pandæmonium*, 1684, gives a narrative of some ladies who say, 'We had been told divers times that if we fasted on Midsummer Eve, and then at 12 o'clock at night laid a cloth on the table with bread and cheese, and a cup of the best beer, setting ourselves down as if we were going to eat, and leaving the door of the room open, we should see the person whom we should afterwards marry come into the room and drink to us.'] Torreblanca, in his *Dæmonologia*, 1623, p. 150, suspects those persons of witchcraft who gather *Ferne-seed* on this night: 'Vel si reperiantur in nocte S. Joannis colligendo grana herbe Felicis, vulgo Helecho, qua Magi ad ualeficia sua utuntur.'

"A respectable countryman at Heston, in Middlesex, informed me in June, 1793, that, when he was a young man, he was often present at the ceremony of catching the *Ferne-seed* at midnight on the eve of St. John Baptist. The attempt, he said, was often unsuccessful, for the seed was to fall into the plate of its own accord, and that too without shaking the plant.

"Dr. Rowe, of Launceston, informed me, Oct. 17th, 1790, of some rites with *Ferne-seed* which were still observed at that place. '*Ferne*,' says Gerard, 'is one of those plants which have their seed on the back of the leaf, so small as to escape the sight. Those who perceived that Fern was propagated by semination, and yet could never see the seed, were much at a loss for a solution of the difficulty; and, as wonder always endeavours to augment itself, they ascribed to Fern seed many strange properties, some of which the rustick virgins have not yet forgotten or exploded.' This circumstance relative to *Ferne-seed* is alluded to in Beaumont and Fletcher's *Fair Maid of the Inn*:

——— 'Had you Gyges' ring?
Or the herb that gives invisibility?'

"Again, in Ben Jonson's *New Inn*:

——— 'I had
No medicine, sir, to go invisible,
No *Ferne-seed* in my pocket.' *

"Again, in Philemon Holland's Translation of Pliny, book xxvii. ch. 9: 'Of *Ferne* be two kinds, and they beare neither floure nor seed.' The ancients, who often paid more attention to received opinions than to the evidence of their senses, believed that Fern bore no seed. Our ancestors imagined that this plant produced seed which was invisible. Hence, from an extraordinary mode of reasoning, founded on the fantastic doctrine of signatures, they concluded that they who possessed the secret of wearing this seed about them would become invisible. This superstition Shakspeare's good sense taught him to ridicule. It was also supposed to seed in the course of a single night, and is called, in Browne's *Britannia's Pastorals*, 1613,

'The wond'rous one-night-seeding *Ferne*.'

* ["Gather *Ferne-seed* on Midsomer Eve, and weare it about the continually. Also on Midsomer Day take the herb Milfoile roote before sun-rising, and before you take it out of the ground say these words following, &c., and gather the *Ferne-seed* on Midsomer Eve betwene 11 and 12 at noone and at night." MS. temp. Eliz.]

"Absurd as these notions are, they were not wholly exploded in the time of Addison. He laughs at a doctor who was arrived at the knowledge of the green and red dragon, and had discovered the female Fern-seed." (*Tatler*, No. 240. *Brand's Popular Antiquities*.)

Not only were these superstitions not exploded in the time of Addison, but they linger still in some of the rustic corners of our land. Thus Mr. Edwin Lees, in his recent work, "Pictures of Nature in the Silurian Region round Malvern Hills," says:—

"The country-people in Worcestershire, as my antiquarian friend Mr. Jabez Allies informs me, still traditionally keep up the old belief in the mystic powers of the 'Fern-seed,' which was supposed to make the gatherer 'walk invisible.' The saying is, that the Fern blooms and seeds only at twelve o'clock on Midsummer night; and to catch the seed twelve pewter-plates must be taken. The wondrous seed, it is affirmed, will pass through eleven of the plates, and rest only upon the twelfth! Such an idea may now be smiled at; but the philosophers of a past age believed something very similar, and even taught that demons watched to convey away the Fern-seed as it fell, ere any one could possess themselves of it. To 'walk invisible' was said, and at one time believed, to result from possessing the Fern-seed."

THE STRAWBERRY.

THIS being a good period for making new plantations, a few observations may prove serviceable.

It may be remarked here, that the earlier the young runners can be obtained, the greater will be the produce in the ensuing year. Those who can find time, and endeavour to pursue very high culture, select the earliest and best runners, and lay them in pots plunged in the soil, merely placing a stone upon them to cause them to adhere to the soil. That which is called "the frequent-runner system" is the best, as to fine produce, there can be little doubt; we have, however, seen much larger crops produced from plants two or three years old.

Strawberries love a deep, loamy, and somewhat generous soil. As to manuring, they, of course, require it like most other crops; but we have known many crops spoiled by an excess of manurial matters. If the soil is of a loose and shingly nature, some adhesive material should be added, or it will be vain to expect good crops. Marls, pond mud, the scourings of clayey ditches, and adhesive soil from commons, or wastes, are all highly eligible as improvers. The soil should be dug quite half-a-yard in depth, and some coarse manure placed in the bottom of the trench; if the soil is hot and loose, some coarse cow-manure would be excellent. Above this, some rather more decomposed may be added; this should be well mixed through the upper portions of the soil. In strong or adhesive soils plenty of charred rubbish may be introduced with good effect; this we have proved to be of much benefit to the *British Queen* especially.

Large kinds of Strawberries, as the *Queen*, require from three to four feet between the rows; such as the *Black Prince* will succeed with from about twenty-four to thirty inches. The final distance between the plants in the row may be, for the larger kinds, twenty inches, and for the smaller about sixteen; many plant them much closer, but there is no advantage in it.

Our practice is to plant them double thickness in the row the first season, and in the ensuing August to remove, or destroy, each alternate plant; so that our Queens which we are planting now will be ten inches apart. The ground should be dug a week or two previous to planting, and each line for the row trod slightly when dry, in order to prevent the plants from sinking, for they abhor having their collars below the

level. I need hardly point to the propriety of obtaining the stoutest plants, and of seeing that they are watered and attended to after planting; but I may here observe, that the runners should not be selected on the score of their numerous fibres alone, but rather for the stoutness of their bud; many of the latter, without a root even, will make much finer plants than thin-waisted plants, however rooted.

Something may here be said about variety of aspect. Of course, everybody desires a succession. We will just take four by way of illustration; and although they be old kinds, are still, as I think, indispensable, and will serve our purpose. The *Black Prince* at the foot of a south wall will come in a week or more before the *Keans'* under similar circumstances. Therefore, I would advise the planting one row of the *Prince* at the foot of a wall, or paling, and a lot of *Keans' Seedling* on some warm slope. The *British Queen* would be as well in some airy and perfectly open situation; and the best plan with the *Eltons* is to form a slope to the north, and to plant them on this. We generally obtain them from the border on the north side of a wall, planting the first row at six feet from the wall. These *Eltons* come into use long after the others; they will generally continue until the end of August. Our other new Strawberries may be handled in a similar way, having regard to the link they constitute in our desserts.

I will now offer a few opinions pertaining to general Strawberry culture. Those who have paid close attention to the habits of this luscious fruit, the companion of our childhood, will have noticed the tendency of the plant to root upwards; or, in other words, annually to produce surface-roots. Need I say, that, in all fruits, this is a circumstance not to be lost sight of? And to what does it point? Why, to two great facts in the culture of all fruits, to say nothing of plants in general; the one, that the tree or plant in question may be made to acquire fresh power in a very short period; the other, that it is liable to be affected by sudden drought. Hence, one reason why the Strawberry requires so much moisture, especially whilst swelling its fruit; and hence, also, the benefits of an annual top-dressing.

One thing I may just name, as connected with the selection of runners. There is more difference in the original habit assumed by the runner, even before it roots, than many would imagine; this is the case, also, with many other runner-producing plants. Some are inclined to be long and loose-jointed; others short and compact; some are full in the centre; others have a kind of hollowness; and, lastly, some have a pinky sort of hue, or unnatural appearance, and, generally, such have a wiry sort of consistence; by all means avoid these. Choose stout runners, with a full crown, a good colour, and a bold foliage, and, as before observed, be not over-particular as to the quantity of roots.

Here let me advert to the management of the foliage, on which a good deal depends. The old practice of mowing off the leaves soon after the crop was gathered is now universally repudiated, and most justly. It classes well with the barbarous practice, once recognised, of cutting down all the Asparagus possible, in order to strengthen the roots. These conceits, thanks to the gardening press, are gone by, surely, for ever.

But Strawberry foliage must some time be trimmed, and useless runners pruned away; the question is, then, when and how? It must surely be known by this time that the foliage of fruits, in general, is not ordained by Providence as a mere ornament alone, but that it has a special part to perform in the system of the vegetable or tree. That it has to cater or elaborate juices for the maintenance of the fruit in the present, as well as to sustain the position of the tree in a

prospective way, few will doubt; but still this question presses—At what period does their utility cease? It may be observed, that their action, as to the juices of the plant, cannot be worth consideration after October; but there is yet another view of the question, which is, that the crowns need protection from the inclemency of the winter. Such being the case, and the foliage being generally sufficient, it would, surely, be very silly to cut away their natural protection in the autumn, and to be driven to protect them with litter. In our opinion, the haulm of Strawberries should be cut clear away in spring, as late as may be—say in the middle of March. I care not how late; but it may be remarked, that it must be removed before the young foliage springs, or there is danger of cutting the latter away in the operation.

The cutting away of runners is an important part of culture. Some persons have doubted the propriety of this, judging that the runner strengthens the plant. This has been an inference of the theorist rather than the practical; but on whatever assumption it has been grounded, I feel assured it is a gross error. It has been said, that until the runner roots, its foliage is working for the parent plant; but what nonsense is this. Out of what material, then, and from whence obtained, is the lusty bud of the runner before it has catered for itself by roots? With me there is not a doubt that the sooner the runners can be got rid of the better. They are, doubtless, intended for the renewal of the kind; and that accomplished, their room is preferable to their company. It is not only that they rob the soil, but, by their accumulation about the plant, crowd the foliage of the parent plant into a compass exceedingly unfavourable to free exercise of its functions.

Another point is, Should we dig between Strawberries? They may have one spade wide dug in the centre between each two rows, when three feet at least apart, without injury, perhaps with benefit, when the plants have stood long in their situation. But, on the whole, I hold with deep digging at first, and an annual surface-dressing afterwards; be it ever so little, or weak in manurial principles, it must act as a sort of screen to the surface-roots. With this I would take a third crop, and then destroy the plantation immediately, trenching them down.

R. ERRINGTON.

CUTTINGS, SEEDS, AND SEEDLINGS.

FROM the first day of August to the tenth of September is the best time in the whole year to propagate, by cuttings, nine-tenths of the bedding plants, and by sowing seeds of them. It is also the best time for two-thirds of all the kinds of seed plants which we use in the flower-garden. The open air is the best place in the world for sowing seeds, and for putting in cuttings of all the kinds which will do that way, and in the full face of the sun is better for them than in shady and sheltered places, provided you can give them, or rather, such of them as may seem to require it, *under your management*, a little shade at first, till they show, by their stand-up and pricked-ears-like leaves, they enjoy the light and air, and night dews.

There is neither a single nor a double *Geranium* in the country, nor a *Pelargonium*, nor a *Fancy Geranium*, together with all the bedders and borderers, but will come from cuttings full in the sun at this season, without the least shade of any kind whatever, if the plants have been properly managed up to the time of making the cuttings; and you may lay it down as a positive rule, that unless cuttings will stand up against a full August sun after a few days, something not just the thing has been the cause, rather than the true nature of the plant from which the cutting was taken.

But stop a while, and do not jump at conclusions from the first and fair part of a story. Just hear me out patiently, and blame no one, nor your place, nor fortune, nor good luck, if one half of your cuttings should be roasted alive in the sun, and the other half done brown on both sides. Perhaps, after all, there is no one to blame. Instead of vexing yourself, and keeping everybody about you in hot water, just try and see if you can make out the cause why your cuttings do not stand the sun like those in the Experimental Garden, for, with me, every cutting of them must stand it out like the master. The *Bridal King* is, probably, the most delicate *Geranium* we have after *Countess*. Both of them root from cuttings, with me, on a west border, close in front of the parents, without the least particle of shade, and I did not put any shade over cuttings of any of the race in the open air for the last dozen years at least. After the end of May, I put such *Geranium* cuttings I want to get quickly through hand into pots of sandy loam, and place them in a cold Waltonian Case of my own construction, and the case stands about ten feet from the front glass, and eight feet from the roof glass of my only conservatorium. Some of the boxes which came with "contributions" make excellent cases for striking summer cuttings in. The lid is dispensed with, and a glazed-frame lid is put on instead; but the glass need not be puttied, if the squares are wanted for anything else: four tin-tacks, or "carpet nails," will keep a large square of glass in a frame for a few months; and as for locks and hinges, any handy man who could not make four pairs of "patent" hinges from his master's old boots ought to go without shoes himself until he learned how patent hinges of the kind are made by his "betters."

I said, last year, that I thought a case of this sort, having perpendicular light only from the lid, was better than if it was sloping to the sun like a Cucumber light, and now I am quite certain that such is the case. The length, the width, and the depth of a cold case may be just what it happens to be; but if you were going to make a dashing new one on purpose, I would advise it to be twelve inches deep, and twenty inches wide, and from three feet to forty inches long, and a poor man might hang it up, between two posts, just inside an "out-house," or shed, but not so far in as to keep the light from the glass. By hanging it up the children could not get at it. We must recollect, in all arrangements for "common things," that the rising generation has a wonderful taste for getting at the nature of things, and that the life of a thing is as nothing compared with the pleasure of knowing what they want to know about it.

On the other hand, a man well to do in the world might make one of these cases to stand in a window recess and match the rest of the furniture, and if he looked at it morning and night he might grow ever so many things in it, and try experiments of his own; so that from the queen to the laundry-maid, I see no sort of use for hotbeds and all that sort of fuss, which many gardeners do for getting their cuttings to grow. All the secret is in taking advantage of the right time of the season, and that brings me round to the reason of the do and not do in the sun.

If the beds have been planted too thick, whose fault was that? or was it a fault or a misfortune? It is never a fault to have the beds planted thickly if you can afford to do so, but it is a great misfortune, just at this critical time, if the plants stand so thick in the bed that cuttings from them can stand so thinly hard by with some shade; but if it be so, so be it, and think of this rule next year. Either plant your *Geranium* beds so thin that the plants will only meet about the beginning of August, or else plant them to meet at once, and remove one-third, or a good many of the plants, from

time to time, till the end of August, and pot them. Such plants having just sufficient start in the beds to push them a-head of pot-plants of the same kind, and not that degree of rankness which plants in beds never fail to have by the end of the season, they will make the best store pots for spring cuttings, or for growing as specimens in pots next year.

When plants are planted thin in May, some other crop is necessary to cover the open spaces for a while. I have used a selection of annuals for this work, and will continue to do so as long as I live, though I would not tie my hands to any custom in particular. This time last year I bought a pinch of herbaceous *Calceolaria* seeds, and kept them in two large pots all through the winter, about a hundred seedlings in each pot; in February they were colonised; in March they were "settled," wider apart; in April they seemed to know, for the first time, under what constitution they were living; and in May they were planted out as annuals among the bedding plants. That is the best way in the world to use herbaceous *Calceolarias*. They are in full bloom while the bedding plants are getting established out-of-doors, and continue to be very gay till there is no more room for them. The middle of September, however, is time enough to sow them for this purpose, as then they may be kept in the seed-pots till after the turn of the new year, to save room.

As to the manner of gathering cuttings of *Geraniums* for the bed, the least harm will be done by taking the young shoots which crowd the centre of the plants near the bottom when they are four inches long, and to slip them off so as to have a heel, and when all that can be had at one gathering are off, to trim off three or four of the bottom leaves, and smooth the bottoms, and they are ready to be put in. I would not grudge them plenty of room, as it is bad economy to have them too close together; but nine inches between the rows, and not less than four inches from cutting to cutting, ought to be a sufficient space for them. On our light soil, at Surbiton, we water them well as soon as they are in, and this season we shall mulch between them with the Cocoa Nut refuse as we did the Roses last winter. All they will need after that is to be damped slightly on the afternoon of hot, dry days. I intend, also, to have them up and potted into store pots much sooner than is usual, say, all to be in winter pots, but not crowded, by the end of September. Hundreds of kinds of cuttings, including *Rose cuttings*, may be managed on the same plan before the 20th of August. We shall put in lots of cuttings of the gayest *Pompones*, of which we have seventy-five kinds this season in the experimental. Before this time is up, I believe, I shall not have to ask for a single *Geranium*, new or old, thanks to the contributors. The end of August is my Grouse shooting time, and I shall be off to the hills before I am loaded to the last feather. D. BEATON.

PINUS NORDMANNIANA.

It was reported that Prince Woronzoff had made a plantation of this noble Pine, under the direction of Mr. Sinclair, at his seat in the south-east of the Crimea; but an officer in the Guards, who rode over there after peace was concluded, tells me that he could find no trace of such a plantation on the estate; but that there is one fine specimen of it in the pleasure-ground, which is eighteen feet high, and it may be good news to some of our importers to know that this tree was "full" of young cones at the beginning of last June, and that a good crop of genuine seeds may be expected from it this autumn.—D. BEATON.

STOVE AND GREENHOUSE PLANTS THAT MAY BE IN BLOOM IN JULY.

STOVE PLANTS.

- Achimenes*, many varieties; *Aden-
authera pavoniana*; *Adina globi-
flora*; *Ægiphylia diffusa*, fœtida;
Æollanthus suaveolens; *Æschy-
nanthus Boschianus*, *Roxburghii*;
Æschynomene pumila, patula,
pendula; *Allamanda*, as last
month; *Alternanthera denticu-
lata*, frutescens, procumbens,
sericea; *Aristolochia fœtida*, gi-
gas, &c.; *Asclepias Curassavica*;
Astrapæa Wallicbii; *Atalanta
monophylla*.
Baccharis glutinosa; *Barleria buxi-
folia*, cœrulea, cristata; *Bassella
marginata*; *Bauhinia acuminata*;
Begonia, many; *Besleria lutea*;
Burchellia Capensis.
Cactus Echinocactus, *Mammillaria*,
many, *Melo-cactus*; *Calathea
grandiflora*; *Callicarpa incana*;
Canavalia obtusifolia; *Canna*,
many; *Carolinea alba*; *Celosia*—
Cockscombs; *Ceropegia elegans*;
Cestrum aurantiacum; *Cleome
cardinalis*; *Clerodendron Kempt-
ferii*, &c.; *Coldenia procumbens*;
Colea floribunda; *Colens Blumei*;
Colubrina Asiatica; *Comitia py-
ramidata*; *Conocladia dentata*;
Conradia scabra; *Convolvulus
ciliatus*, pentanthus, verticilla-
tus; *Coursetia virgata*; *Crinum
Americanum*, amœnum, Asia-
ticum, &c.; *Croton pictum*, var-
iegatum, &c.; *Cyrtoceras reflexa*.
Dalechampia Brasiliensis; *Diplade-
nia crassinoda*, splendens; *Dory-
anthes excelsa*; *Dracæna arborea*.
Echites atro-purpurea, suberecta,
umbellata; *Eupatorium floribun-
dum*, macrophyllum, *Schiedea-
num*; *Euphorbia bracteata*, caput
Medusæ, splendens, tuberosa.
Fimbraria elegans; *Fischeria scan-
dens*; *Flacourtia Ramontchii*.
Geissomeria aurantiaca, longiflora;
Gesneria breviflora, cordata, co-
rymbosa, *Douglasii*, zebrina;
Gloriosa superba; *Gloxinia*, many
varieties; *Goldfussia isophylla*;
Gomphrena, many varieties;
Globe Amaranthus; *Gossypium
Barbadense*.
Hemantus sanguineus, &c.; *Ha-
ronga Madagascariensis*; *Harris-
sonia loniceroides*; *Hedycheium
angustifolium*, *Gardnerianum*,
&c.; *Hibiscus Manihot*, &c.;
Hippobroma longiflorum; *Hirea*

Indica; *Hoya bella*, *imperialis*,
&c.

Ipomœa campanulata, *Horsfalliæ*.
vitifolia, &c.; *Ixora coccinea*,
fulgens, *Griffithii*, *Javanica*, &c.

Jasminum Sambac, &c.; *Jatropha
panduræfolia*, &c.; *Justicia car-
nea*, &c.

Lantana cœcea, involucrata, muta-
bilis, violacea; *Lasiandra argen-
tea*; *Lisyantus Russellianus*;
Littæa geminiflora.

Maranta bicolor, obliqua, variegata;
Medinilla speciosa; *Mutisia
arachnoidea*.

Nelumbium speciosum; *Nymphæa
cœrulea*, rubra.

Oldenlandia umbellata; *Oxyanthus
speciosus*.

Pancratium speciosum, *verecun-
dum*; *Passiflora alata*, princeps,
&c.; *Petalidium Barlerioides*;
Phyllarthron Bojeriana; *Physi-
anthus albicans*; *Pitcairnia hu-
milis*, *iridiflora*; *Pleroma elegans*,
heteromalla, villosa; *Plumbago
rosea*; *Porana volubilis*; *Portiera
hygrometrica*.

Quassia amara; *Quisqualis Indica*.
Rauwolfia tomentosa; *Rivinia
humilis*, latifolia; *Rondeletia
odorata*, racemosa, speciosa;

Roxburghia gloriosa; *Ruellia
dependens*, elegans, formosa,
longiflora; *Russelia juncea*, multi-
flora; *Ryanca speciosa*.

Saurauia spectabilis; *Schrœnkia
aculeata*; *Scutellaria cordifolia*;
Sinningia guttata; *Siphocampy-
los glandulosus*, microstoma;

Solanum igneum, muricatum,
&c.; *Sphaerostema propinquum*;
Stapelia, many kinds; *Sterculia
grandiflora*; *Swartzia grandiflora*;
Sweetia filiformis.

*Tabernaemontana coronaria flore-
pleno*; *Tachia longiflora*; *Tern-
strœmia punctata*, vcnosa; *Thun-
bergia*, most varieties; *Torenia
Asiatica*; *Tournefortia*, several;
Tradescantia discolor, &c.

Urania comosa, picta.

Victoria regia; *Vilmorinia multi-
flora*; *Vismia glabra*; *Voyra
rosea*.

Wendlandia paniculata; *Wrightia
coccinea*, latifolia.

Xanthoxylon pterota.
Zamia angustifolia; *Zingiber offic-
inale*.

GREENHOUSE PLANTS.

- Abronia mellifera*, pulchella; *Abu-
tilon striatum*; *Acmadenia tetra-
gona*; *Acronychia Cunninghami*;
Actinotus helianthi; *Adenandra
fragrans*; *Adesmia uspalatensis*,
viscosa; *Ageratum*, various; *Aloe
depressa*, *dichotoma*, *distans*, la-
tifolia, saponaria; *Alomia agera-
toides*; *Alona obtusa*, rostrata;
Alstrœmeria aurea, &c.; *Amellus
lychnitis*; *Anacampseros angusti-
folia*, *intermedia*, &c.; *Anagallis*,
many varieties; *Androcymbium
melanthoides*; *Anomatheca cruen-
ta*; *Anthericum hirsutum*, pilo-
sum, squameum, triflorum, villo-
sum; *Anthocercis albicans*; *Anthyllis
Hermanniae*, tenuifolia, *Arctotheca
grandiflora*; *Arctotis
bicolor*, speciosa; *Aristea capi-
tata*; *Aristolochia arborescens*;
Arthropodium pendulum; *Arum
ternatum*; *Aspalathus argentea*,
carnosa; *Astelma eximium*, re-
tortum; *Aster reflexus*, sericeus;
Astroloma humifusa; *Athanasia
canescens*, dentata.
Babingtonia camphorosma; *Bac-
charis angustifolia*; *Bæckia cam-
phorata*; *Balsamina*, many var-
ieties; *Banksia speciosa*, &c.;
Barosma latifolia; *Beaufortia
purpurea*; *Berardia phyllicoides*;
Berkbeya grandiflora; *Berzelia*

lanuginosa; *Bignonia Chirere*,
jasmynoides, &c.; *Billardiera an-
gustifolia*, parvifolia; *Blandfordia
marginata*; *Bomarea edulis*, *Bor-
bonia barbata*, ciliata, lanceolata;
Bouvardia triphylla, &c.; *Bravoa
geminiflora*; *Brugmansia*, var-
ious; *Bupleurum plantagineum*.

Calandrinia, various; *Callistachys
refusa*; *Carmichaelia australis*;
Cassia baccharis, corymbosa;
Celsia Cretica, viscosa; *Ceropegia
torulosa*; *Chironia decussata*,
frutescens; *Coldenia procum-
bens*; *Convolvulus Canariensis*,
suffruticosus; *Coronilla minima*;
Cosmelia rubra; *Cowanilla plicata*;
Crassula coccinea, &c.; *Crinum
longiflorum*, plicatum; *Crotola-
ria dicbotoma*; *Crowea latifolia*,
saligna; *Cuphea*, various; *Cy-
athodes acerosa*; *Cyrtilla Antilla-
rum*.

Dampiera stricta; *Darwinia taxi-
folia*; *Daviesia juncea*; *Dolichos
lignosus*; *Duvaua latifolia*.

Eccremocarpus scabra, &c.; *Eche-
andia terniflora*; *Echeveria caespit-
osa*, *grandiflora*, &c.; *Echium
giganteum*, longiflorum, &c.;
Edwardsia Macnabiana; *Ehretia
acuminata*, microphylla; *Elæagn-
us orientalis*; *Empleurum ser-
rulatam*; *Erica depressa*, expansa,

fastigiata, Hartwelli, incana, pulchella, rubra, &c.; Euphorbia atropurpurea, imbricata, serrata; Eustegia hastata; Eustrephus angustifolius; Euthales macrophylla, trimeris.

Falkia repens; Farsettia cheiranthoides; Fieldia australis; Fuchsia, many varieties.

Gardenia florida, &c.; Gasteria, many kinds; Gazania pavonia, rigens, uniflora; Genista monosperma; Gladiolus floribundus, &c.; Guida capitata, sericea, simplex; Gomphocarpus crispus; Gompholobium capitatum, Hendersonii; Goodenia gracilis, ovata.

Hakea clavata, dactyloides; Hawthornia allicans, arachnoides, margaritifera; Hebenstreitia cordata, &c.; Helichrysum crassifolium, divaricatum, helianthemifolium; Helipholia cleomoides; Heliotropium, various; Herbertia pulchella; Hibbertia saligna; Ilex longifolia, linearis; Hovenia dulcis; Hudsonia Nuttallii; Humera elegans; Hydrangea.

Indigofera argentea, frutescens; Ipomea Sellowii; Ipomopsis elegans; Isopogon anemonifolius.

Jasminum Azoricum, grandiflorum.

Lagerstromia grandiflora; Lapageria rosea; Lasiospermum pedunculare; Leucadendron cinereum; Leucospermum lineare; Lightfootia Loddigesii; Lobelia, many; Lotus Jacobaeus.

Mahernia verticillata; Martynia longiflora; Melaleuca calycina, fulgens, lanceolata; Mesembryanthemum calycinum, calendulaceum, &c.; Mimetes divaricata; Mirbelia grandiflora; Mitraria coccinea.

Nandina domestica; Nerium oleander, &c.

Olea fragrans, sativa, &c.; Othonna

arborescens; Oxalis divergens, &c.; Oxylobium ellipticum.

Passerina filiformis; Passiflora caerulea, racemosa, &c.; Pelargonium, great variety; Persoonia linearis, salicina; Petunias; Pharbitis Learii; Phyllaea pinifolia; Pimelia Hendersonii; Platylobium parviflorum, triangulare; Plumbago Capensis; Polygala bracteolata, genistoides, myrtifolia, pinifolia, simplex, speciosa; Pomaderris globulosa; Priestleya umbellata; Pronaya elegans; Prostanthera denticulata; Pteronia flexicaulis.

Rhodanthe Manglesii; Rhycospermum jasmynoides; Roelia ciliata; Roylea elegans; Ruellia lactea.

Salpiglossis, many; Salvia fulgens, &c.; Samolus litoralis; Schizanthus Grahami, &c.; Schottia alata; Scottia dentata; Selago corymbosa, diffusa; Sempervivum arboreum, retusum, tabuliforme, &c.; Siphocampylus coccineus, lantanifolius; Solanum jasmynoides; Sollya heterophylla, linearis; Spielmannia Africana; Statice alata, cinerea, monopetala, mucronata, pubescens, suffruticosa; Struthiola angustifolia, incana, longiflora, striata; Stylidium fruticosum, scandens; Styphelia epacrioides, tubiflora; Swainsonia astragalifolia, galegifolia.

Telopea speciosissima; Tephrosia sericea; Testudinaria elephan-tipes; Tetratheca glandulosa, ericifolia; Trachymene caerulea; Tropaeolum pentaphyllum, &c.; Tweedia floribunda; Tylophora grandiflora.

Vellaea paradoxa; Veltheimia viridifolia; Verbena, many; Veronica decussata, salicifolia; Viborgia obovata; Viminaria lateriflora; Virgilia lutea; Viviana grandiflora.

Witheringia purpurea.

Zichia inophylla.

and causing the plant to make a round head like a standard Rose. When the head is thus formed the shoots should be cut freely back to within a few buds of their base every spring, and the young shoots that come from these buds ought to produce plenty of flowers for most of the summer, and few things will equal it in elegance and beauty. Any place will keep them in winter, where they will be secure from frost, being almost as hardy as a Fuchsia. I have tried it out-of-doors in summer, with no marked success; it does better against a wall. South of London it is almost hardy in some places. It is easily propagated by cuttings, and when young in a pot likes light soil and a little leaf-mould or heath-soil; but, when established, it should have little except stiffish loam to grow in, and receive manure waterings frequently, and a good dash of the syringe in afternoons, to keep the red spider at a distance.

(To be continued.)

FLORISTS' FLOWERS.

THE PINK.

THE easy culture, beautiful flowers, and delicious fragrance of the Pink have rendered it universally a favourite in all gardens, from the highest to the most humble. The size of the flowers has been, of late years, greatly increased, and the qualities of the modern varieties have also much improved.

A few hints on its culture will, no doubt, be acceptable to many of the readers of THE COTTAGE GARDENER, especially such growers as have but lately begun to cultivate it. The Pink has this advantage over the Carnation and Picotee, namely, its hardihood. It does not require large, expensive pots, but may be grown in the open border with great success. The soil it requires is a light loam, enriched with a good dressing of leaf-mould wherever that can be procured, but if not to be had, then use stable-dung well decomposed. One successful grower that I knew told me that his best Pinks were grown in common garden-soil, freely mixed with decayed thatch. From that circumstance we may conclude that the peculiar vegetable matters in the straw, when decayed, are highly useful in the culture of this charming, fragrant flower. Hence the straw in stable-manure renders it suitable as a fertiliser.

To grow this flower for exhibition, it is necessary to propagate it every year, and the best blooms may always be procured from plants propagated the season previous to that in which they are to produce winning flowers. Let every new beginner remember this point, if he wishes to succeed in obtaining prizes. The best season for propagation is from the middle of June to the end of July. The mode is by piping. A piping is, in fact, another technical name for a cutting. It should be about three inches long. The lower leaves should be carefully trimmed off, without touching or wounding the bark of the stem. Four leaves should be left on each cutting or piping. They may be struck in two ways, that is, under a hand-light, or in pots placed under a frame in gentle heat. The latter is the quickest mode: the pipings root by it the most readily. In both methods a thin layer of pure white sand on the surface is useful. When sand is used, there is less fear of damp destroying them. Shade from hot sun should be always applied, and water given with great moderation. Whilst the cuttings are rooting, the bed to receive them should be duly prepared, by digging over frequently to thoroughly mix in the fertilisers. The soil should be elevated above the walks and general level at least two or three inches, the highest part to be in the middle. When the pipings are well rooted, plant them out immediately. This should take place the first week in September, which

Having had several hints in the way of complaint, that I confined myself too much to plants generally known and frequently met with, I have been induced for once to give a more lengthened list, though I should despair of finding any such collection in bloom in any one establishment, however large. Many of our correspondents complain that, go where they will to shows and gardens, they meet with the same forms and types, which, at length, assume a wearisome sameness; and they think that there are many very interesting plants, really beautiful, never now met with, though, from the time they have been in the country, they ought to be procured at a reasonable price, if there was anything like a demand for them. I shall now give a few running observations, confining myself, at this time, to greenhouse plants.

ABRONIA.—These in warm places are nearly hardy, and are as easily kept as Verbenas in cool pits in winter. They soon trail over a bed; but, where the soil is not sandy and poor, they grow too much to leaf: planted on the top of a little knoll, faced with pieces of old wood or flints, they soon cover it by creeping gracefully over it. Placed in a pot, in a basket suspended, they are interesting objects in a cool house in summer. They like a little leaf-mould to start in; after that, the commonest soil will do. Propagated freely by cuttings and seeds.

ABUTILON.—The one named in the list is as beautiful as any. The orange and red-striped, bell-shaped, Mallow flowers are exceedingly handsome, suspended by their long, thread-like flower-stalks. Though an old well-known plant, it rivals, in our opinion, the graceful *Hexacentris Mysoriensis*, and blooms, with little care, much more profusely. Those who saw this *Hexacentris* some years ago, trained like a lady's parasol open, with the flowers hanging down from the top, will get an idea of the best mode of growing this Abutilon—namely, taking a single stem to the height of three or four feet, stopping it there,

will give time for them to become well established before winter sets in. In the spring look them over, and press them down into the soil, for it will be found that the frost, if severe, will have left them loose, and risen up considerably. Stick early, and shade the blooms when they begin to expand. Many even good kinds are apt to open unequally, or, as florists term it, burst at one side. To prevent this use the same material and place as recommended for the Carnation and Picotee, that is, tie a ligature of bass mat round the best buds, or else place round them rings of Indian rubber, small enough to keep them from bursting. There are some excellent varieties that are thin of petals; such may be greatly improved by severe thinning, leaving only one, or at most two, blooms on each stem, and only one stem to each plant.

With these few cultural remarks I shall now proceed to give a list of twelve of the best new, and twelve of the best older varieties. If orders are given now desire the dealer to send the plants as soon as possible, and let the amateurs have their beds ready to receive them as soon as they arrive.

TWELVE SELECTED NEW VARIETIES.

1. *Adonis* (Macleau).—Rosy purple; fine form; good substance; well laced. A fine variety.
2. *Brunette* (Macleau).—Dark edged. An excellent variety.
3. *Criterion* (Macleau).—Purple edge. Fine form and beautifully laced, but rather thin. Requires severe thinning.
4. *Edwards's No. 9*.—A new, fine variety.
5. *Field Marshal* (Hale).—Rose edged. Constant and well formed.
6. *Great Criterion* (Macleau).—Rosy-purple edge. Very large petals; smooth edge. Requires thinning.
7. *James Hogg* (Bragg).—Dark edge. Full, smooth, and constant.
8. *Lady Grenville* (Turner).—Red edge. Fine petals, well laced. Extra fine.
9. *Mrs. Norman* (Norman).—Purple edge. A very fine variety.
10. *Mrs. Sterens* (Looker).—Purple edge. Distinct and fine.
11. *Mrs. Lewis* (Keyne's).—Dark edge, well laced. Extra fine.
12. *Star* (Westbrook).—Red edge. Very bright, and with fine properties.

TWELVE OLDER SELECT VARIETIES.

1. *Duke of Devonshire* (Turner).—Large and full, with a clear rose edge.
2. *Fanny* (Hardstone).—Red edge. Clear and bright.
3. *Goliath* (Bragg).—Red edge. Fine.
4. *Jupiter* (Bragg).—Purple edge. Good.
5. *Mrs. Maclean* (Macleau).—Lilac, rose edge.
6. *Optima* (Turner).—Dark edge, deeply laced. A large flower. Good.
7. *Richard Andrews* (Turner).—Rosy-purple edge. Fine.
8. *Ruby* (Bragg).—Rosy-purple edge.
9. *Sarah* (Turner).—Dark edge. Very full.
10. *Sappho* (Caleutt's).—Purple edge. Good.
11. *Sir Joseph Paxton* (Bragg).—Rosy-purple edge. Fine form and substance.
12. *Titus* (Edwards).—Purple edge. Full and constant.

T. APPLEBY.

(To be continued.)

LETTUCES RUNNING TO SEED.—RADISHES IN HOT WEATHER.—ROUTINE WORK.

A CORRESPONDENT, living in the neighbourhood of London, complains of his *Lettuce* and *Radish* crops

failing him this season. The former, he says, run to seed before attaining any size; and the latter, we suppose, fail to germinate; or, what is equally unfortunate, disappear before they arrive at a useful size. Some further inquiries he also makes on other subjects, but the above, being cases of common occurrence, may be dealt with first; and, commencing with *Lettuce*, our correspondent may derive some consolation by the fact that many others are in the same plight as himself; but a few hints may be of service to him another year, and he may then, perhaps, be more successful.

In the first place I may mention, that *Lettuce* running to seed in a dry, hot season is not by any means uncommon, and more especially on a dry soil; but a cool, moist one will not always prevent them, if the variety that is sown have a tendency to "bolt;" and the way to prevent this is only to sow the best varieties that are in cultivation; and as the intention of those who have, from time to time, supplied us with new varieties, has been to lessen the tendency the plant has to run to seed, it may fairly be inferred, when seed of those good sorts only are sown, the crop is likely to be a much better one; and doubtless it is so; only, as has been remarked elsewhere, spurious or degenerate varieties will find their way into the market, and consequently the failure our correspondent complains of. Now, though I am far from being an advocate for patronising many kinds of any vegetable, still, in such as *Lettuce*, where there is an uncertainty hanging over them, it is better not to trust to one kind alone, but to sow two or three kinds; and the chances are that one or more amongst them may resist the temptation to run to seed; but, to be more plain, I will mention the names of a few kinds generally well known, and all more or less good, or fitted for their respective uses in affording a good wholesome salad.

Perhaps the kind best adapted for summer work in very dry places is a good *Cabbage* variety, of which the *Drumhead*, *Tennishall*, and *Malta* have, at times, all proved good. The only difficulty is to get these good; but they are more likely to be so than the finer kinds of *Cos* *Lettuce*, which are generally more esteemed for salading; but these latter are never so white as the best *Cabbage* kinds, where colour and appearance are requisite; but, if the amateur sows a batch of a good *Cabbage* variety, in rows about a foot or fifteen inches apart, and takes care to thin them early, he will be likely to succeed in securing some at all times, as no planting is wanted. A good *Brown Cos* is also requisite, and likewise an intermediate one between the *Brown* and *White Cos*, which was, at one time, represented by the old *Brighton Cos*. Others have since succeeded it in the same way; but, in general, the *Hooded White* and *Green Cos* varieties do not endure dry weather well, although they are very good at other times; and as the *Brown Cos* requires tying up betimes, it would be well to see to that when wanted.

Perhaps the best way to secure good *Lettuces*, and, in fact, everything else good, on dry, hot soils, is to trench and fertilise the ground to the depth of eighteen inches or two feet; but this work must be done carefully, and not an indiscriminate disturbing of the soil and subsoil to that depth just before planting, as there is often a very pernicious substratum just underneath the surface soil, which requires some time to fertilize and prepare to support vegetation. This work, therefore, ought to be done early in autumn, when there is a long period to mature its sweetening capabilities ere it be wanted; in the mean time the amateur may do much by giving liberal waterings with liquid-manure, and if he add such stimulating substances as guano now and then, he will be amply rewarded for his trouble.

Radishes are rarely produced good in hot, dry soils, except in moist seasons, when such soils are, perhaps, best; but a very little dry weather makes them hot and

sticky; so that where a cool, shady corner cannot be obtained for them, it would be prudent not to grow many of them in summer, but in spring and autumn they may be sown with every prospect of success. I might add, what I have on several occasions done, that a north border is, perhaps, the very best place for both Radishes and Lettuces in dry, hot seasons; and I need hardly add that the shade from a high wall or building is much better than from trees or hedges; the latter always robbing the ground of its most useful productive juices, independent of the injury it does by preventing rain, dews, &c., operating at once upon the vegetable; for though they might not happen to lack moisture, yet the rain which falls on a tree, and thence upon another object, is altered the second time, and divested of its most useful properties. Hence the propriety of adopting a building, or other object than a living tree, as a shade opposed to the fierce glare of a summer's sun.

The same correspondent asks what he is to do with the ground vacated by Peas? This, by all means, must not be idle, and the sooner he can get it dug the better, after the Peas are done with; and if it be done by the beginning of August, then he may plant a good breadth of *Winter Brocoli*, of various kinds; and, by way of economy, he may even plant these before the Peas are off, taking care, in gathering the Peas, not to injure the Brocoli or other plants. The way I do is to sow the Peas in rows six feet apart, which allows room for three rows of Brocoli between them; and although the progress of the Brocoli is slow until the Peas are cleared away, yet they make some advance and become established, ready to go ahead when the cumbersome Pea crop is removed, and often turn out very well. But should the Pea be very late, and perhaps be sown so close as to leave no chance for an undercrop to do any good, then the ground must be dug immediately they are cleared away, and *Cabbages*, *Lettuces*, *Endive*, or some other autumn-planted crop may take their place, the grand object being not to allow the ground to lie idle; and, at the same time, crop it so as to vary the productions each time as much as possible. The wants of the cultivator will, in a general way, determine what these crops are to be; but by all means do not allow it to remain idle long, as there are many crops with which ground may almost at all times be planted, that to lose any part of the growing season is considered bad management; and as the growing season becomes shorter every day, the correspondent whom these lines are meant to assist must not delay getting his ground ready as soon as he can, if he expects a successful result, and to accomplish that, he must not hesitate to sacrifice the last few Peas on the crop; but of this he will be the best judge.

I might here remark, that it is now full time to sow a large breadth of early *Cabbage*; a batch of *Lettuce* and *Endive* may also be sown at the same time; but the main crop of *Cabbages* for spring use need not be sown before the 12th of August. Still a few may be sown a fortnight earlier; and, although they cannot always be depended upon, yet, when they do succeed, they come in much earlier than the other crop; but as we will give more full directions on that head next week, the amateur may sow a few of some good early kind as soon as he can, shading the bed, if the weather be dry, as directed some time ago; and if he have the misfortune to see them all run to seed next March, the small quantity that it is advisable for him to plant of this first sowing will not materially affect him; while, on the other hand, if they succeed, young *Cabbages* in April, instead of May, are of some consequence, when other garden-stuff is scarce; but more particulars next week.

J. ROBSON.

QUERIES AND ANSWERS.

GARDENING.

LINUM GRANDIFLORUM.—SPORTED DUCHESS OF WELLINGTON GERANIUM.

"I did not find any difficulty in raising the *Linum*. I had at least fifty up. After pricking about eighteen out, I left the remainder to take their chance. Yours are some of them; the others have been in bloom in our conservatory about seven weeks, and are now fading. I am sorry I did not pay more attention to it at first. Until THE COTTAGE GARDENER opened my eyes, I thought no more of it than the *Schizanthus*, and other annuals; but I have no doubt I shall be able to accommodate the Experimental with a pinch of seed (not mixed with hot 'uns).

"I have a plant of Geranium, *Duchess of Wellington*, with transparent foliage and wood, similar to *Cerise Unique*. Is that anything worthy of the Experimental? if it is, I will send you a cutting for your own private use.—J. P."

[A cutting from the sported *Duchess* will be acceptable to Mr. Beaton, and such cuttings from anywhere will also be useful to the end of August, when the Experimental Garden gate will be shut for the season.]

CUTTINGS IN A COLD PIT.

"In the clever article on making cuttings in cold pits to stand through the winter, April 15, page 47, it is stated by Mr. Fish that these pits should have their ground line above the surface, in order to prevent damp.

"I have a range of large Melon pits, sunk, of course, below the surface, and having a flue along the front of burnt earthen pipes (glazed).

"I propose raising cuttings of *Verbenas*, &c., in these pits, in August and September next. I intend to take off one foot or more of the earth after the Melons are cut; to put a thick layer of coal-ashes, and some earth upon that, for the cuttings, which I shall plant in pots. Is it your opinion that this surface, being greatly above the ground line, will be an effectual protection against damp through the winter?—VERAX."

[We have no doubt that the plan you propose will answer well; but why dig away a foot of earth, put in coal-ashes, and then fresh earth, and yet plant out in pots? Would not moving away the surface earth, so as to get rid of all insects, and as much more as would permit a good depth of ashes above to place the pots in, answer equally well, if not better, as the ashes will be a better security against damp than earth, and more especially if they were rough ashes instead of fine and smooth? There will be less danger from damp in your case, because you can use your flue. The peculiarity of what Mr. Fish stated consists chiefly in pricking the cuttings out on the bed at once, and having that bed elevated above the surrounding surfaces. In your case, with the flue, there will be no danger, if at all attended to; but those old hotbeds are just the worst places for damp imaginable, as the whole mass of dung below the earth will be giving out damp air all the winter. A raised bottom, through which the damp cannot well rise, we believe to be the best where fire-heat cannot be given.]

NIGHT-SMELLING STOCK.—NIGHT-SMELLING FLOWERS.

"A *Paris Subscriber* will be much obliged by your giving him some information respecting the Night-smelling Stock, its culture, and proper name. Also, if there is not a small work published on the Night-smelling flowers and plants?"

[We know of no work on Night-smelling flowers. We presume that by the term is meant flowers that smell only at night—of which there are several, which we will try and recollect. There are plenty that smell quite as much in the dark as in the day, and especially in the evening, for some hours after sundown. The blooms of the double white *Brugmansia* the other night were exceedingly powerful in the open air, and so was a bed of *Heliotropes*. The

name of the Night-smelling Stock is sometimes *Cheiranthus tristis*, and at other times *Mathiola tristis*; some making it a Wallflower, and others making it a Stock. It is a true Night-smelling plant, being a dull, livid thing during the day, with nothing at all to attract attention; but at night a single bloom is delicious, filling a whole room with its odour. We have seen a puzzle with it in a small greenhouse, or in a room, at night; the young folks puzzling themselves long to find out the plant from which the perfume came. It is a native of the South of Europe. When done flowering, the flower-stalks should be cut away, and the plant shifted when it is growing. It likes sandy loam best. In winter, any place where there is a free circulation of air, and a temperature from 35° to 45°, will suit it. We may revert to the subject.]

PHALÆNOPSIS GRANDIFLORA CULTURE.

"A. C. has two plants of *Phalænopsis grandiflora*; the one a large, the other a small plant; both have made fine roots, and the larger has flowered splendidly this season. The leaves of both, however, look yellow and flaccid. What can be the cause? They are grown in an Orchid-house, glazed with Hartley's Patent Glass, and shaded from the midday sun with canvass."

[The *Phalænopsis grandiflora* requires a close, damp atmosphere, and abundance of water sprinkled over the roots, but not any over the leaves, excepting in the evenings of the longest and hottest days of summer. You do not say how your plants are grown, whether in pots or on blocks, or both combined. If in pots in earthy peat only, it is, probably, part of the roots are decayed. If in pots in moss, they have been kept too moist in dark weather; and if on blocks, probably they have been kept too dry in hot weather. We may not have hit upon the right cause; but whether we have or not, we would advise a change of culture to that hitherto followed, in order to recover the colour and substance of the leaves. Procure some bog moss—it is white, and found in wet swamps,—dry it, and place the living roots of your *Phalænopsis* on blocks; plunge the blocks in the moss in pots, allowing the plants to stand well up in the centre of the pots, packing the moss pretty close to the neck of each plant; then give a gentle watering with tepid soft water, and place the plants in the warmest place of your Orchid-house. With great care they will soon recover their verdure.]

BOULE DE NEIGE GERANIUM.—PRIMULA SINENSIS SEED.

"Will you kindly say if the White Horse-shoe Geranium, *Boule de Neige*, is the best one for bedding? and is not the best time to strike the cuttings of it in the autumn? Is it too late to sow the *Primula Sinensis*, to flower next spring and beginning of summer?—ONLY A YOUNG BEGINNER."

[*Boule de Neige* is no bedder at all. It does not flower freely enough even for a mixed border; but it is the second best white for a pot in-doors, and an old plant of it answers well that way. For the next ten days is the best time to strike cuttings of this and most others of the kind. *The Blushing Bride*, we believe, is the only white scarlet Geranium that will do for a bed; but we trust to hear a full account of it from Mr. Beaton's Experimental Garden, as it is yet too dear to bed for one's own use. Lose no time in sowing your *Primula Sinensis* seed; our seedlings are up, but you will be in time.]

LAPAGERIA ROSEA CULTURE.

"From Mr. Beaton's account of *Lapageria rosea*, I purpose having one in the autumn, and wish to treat it properly. I shall be obliged by information as to the proper soil and situation (whether shaded by shrubs or trees, or exposed); also, what height it attains, and what is most proper in shape and material for it to grow up.—J. G."

[The most conclusive evidence we have about the proper way of managing *Lapageria rosea* is from the Kew Gardens. You may recollect that Mr. Beaton reported last autumn,

that at Kew they keep their large-flowering plant of *Lapageria* in a hardy Fern-house with a north-east aspect, that it was planted in an earthenware pan about twenty inches or two feet in diameter, and not more than three or four inches deep; the compost was turfy loam, a little peat and leaf-mould, with as much white sand as made a light rich compost. The quantity of sand can never be safely stated, as it depends on the texture of the loam and peat. Some loam requires three times as much sand as others; the eye and the hand are the true guides. The Fern-house is just kept from frost, and no more. A cold pit would do for a young *Lapageria* as well as a Fern-house, and unless one could get a large mass of old imported roots, such as a strong Asparagus plant fit for forcing, we would not advise it to be planted out in the open air; but as soon as the seedlings get to that strength, we would prefer them in the open air, and to be treated like *Bomaria acutifolia*, that is, a deep light border, a rod or wire to twine on, and a heap of ashes over the roots in winter.]

STRIKING GERANIUM CUTTINGS.

"Will you please to inform me which is the best mode for striking house Geraniums—in a cold frame, or behind a north wall? Last autumn I was very unsuccessful in striking with a hotbed, especially Verbenas, although they were commenced in good time.—AN AMATEUR."

[The best mode to strike house Geraniums, before the middle of August, is the "old way," which is by making cuttings from three to four inches long, and planting them out on a piece of newly-dug ground, "right in the sun and open air," in rows one foot apart, and four inches one cutting from another. We shall go on with them in "the old way" till the last day in August. We shall be putting in cuttings of them till the end of September; but all that month we shall put them in pots, and the pots in a cold frame; but we never shade for Geranium cuttings, except in March, April, and May. It is madness to make hotbeds for cuttings in the autumn, unless one is a practised gardener. We have only to begin early, and the sun is hot enough.]

NEW BOOKS.

THE ORCHARD-HOUSE.*—For the fourth time, the new edition of this shilling pamphlet calls upon us for a notice, and we will begin by observing, that those who condemn or disparage the Orchard-house usually do so because they confound "its being, end, and aim" with that of the greenhouse and forcing-house. Now, it intends to interfere with neither of those structures, but merely to be a superior protection to fruit-trees usually grown against open walls, or in the open borders; such protection insuring the setting of the fruit in spring, and the thorough ripening of the wood in autumn. The great difficulty is to keep the house cool enough in summer; and the introduction of artificial heat, in any form, we consider, at once transforms it to a structure of another character.

Mr. Rivers chiefly devotes it to the culture of fruit-trees in pots, but we know of one that has Peach, Nectarine, and Apricot-trees trained against its east side, and Vines up its west side, at wide intervals, which grows Strawberries, early Peas, &c., in its borders, and is, altogether, the most useful house we ever knew. We shall give fuller details of its results in a future number.

There are many new additions to this edition of Mr. Rivers's useful little work, but the most striking are those in which he proposes to construct "The Tropical Orchard-house," for the purpose of cultivating in pots the Mangosteen, Chirimoya, Pomegranate, Lee Chee, Loquat, Guava, Granadilla, Mango, Dwarf Plantain, Rose Apple, Sweet Lime, Sapodilla, Fig, and Orange. We have no doubt that this

* *The Orchard House*; or, *The Cultivation of Fruit-trees in Pots under Glass*. By T. Rivers, of the Nurseries, Sawbridgeworth. Fourth Edition. Longman & Co., 1856.

may be accomplished, but it involves the need for a system of heating.

Mr. Rivers says:—"I have confined myself to the enumeration and description of only a few tropical fruits; when their culture in tropical Orchard-houses is understood the list may be extended; for in all tropical climates there are numerous fruit-bearing trees and bushes utterly unknown to English gardens. It may, perhaps, be said that some of the kinds of fruit I have recommended will form trees too large for a house of the dimensions given: this ought not to influence the cultivator; for, as is well known, the Fig grows into a very large tree when the soil and climate are favourable, and yet bears well in a pot of moderate size. Collectors have for many years past paid much more attention to Orchids and Pines than to tropical fruits, only because their culture has not been carried on in England with spirit. Let us hope that a new era is opening, and that, owing to the introduction of hot water as a means of heating, the low price of glass and bricks, and I trust the forthcoming low price of timber, owing to peace, we shall see tropical Orchard-houses rising up and rivalling the now numerous Orchard-houses in their agreeable results."

LINUM GRANDIFLORUM.

I HAVE been very much amused at the general outcry against the "rogues" who have supplied dead seeds of the so-called *Linum grandiflorum rubrum*; at least, such seeds are supposed to be dead, inasmuch as no one seems to have been so fortunate as to raise one. I, too, have been a sufferer for the last three years, year by year purchasing my packet of seed from first-rate London seedsmen; with me not one seed so purchased has yet made its appearance above ground. Last autumn, however, a friend gave me either five or six seeds from a packet he had just brought from Paris. These I sowed in a pot, which I placed in my Cucumber-bed with the feeling that it was only labour lost. To my astonishment five plants made their appearance, and are now nice, healthy plants, showing plenty of blooming buds. I have cautiously waited the opening of these buds, fearing lest—like the gentleman who "counted his chicks

before they were hatched"—my *crimson* should turn out *blue*. However, the bloom is open, and is positively true—a rich rosy-crimson with a pencilled eye, and a line of deeper colour round the edge of each petal. Whether it will seed in England or not I cannot tell. I have given away two plants out of the five, and requested my friends to try and seed them. Judging from my own experience, I should say, buy your seeds in Paris.

I do not know that my communication is of sufficient consequence to deserve any notice in THE COTTAGE GARDENER; I only mention my success as an encouragement to others to persevere. The flower is laudable enough to repay the trouble of raising it.—J. BRAMHALL, *St. John's Vicarage, near Lynn*.

ESTABLISHING A ROOKERY.

I SEE no answer in your paper of July 15th to "P. P.'s" inquiry respecting young rooks; I therefore write to say, that if I cannot tell how to keep the *young*, I may suggest how to entice the *old* ones; that is, in the autumn tie up in the trees in which he wishes the rooks to establish themselves a number of old birch brooms, and I will venture to promise that rooks, young or old, will build thereon, fancying them forsaken nests; and that "P. P." may eat rook-pie to his heart's content. With this inducement to remain, and with an affection for the spot, I do not see why "P. P.'s" pets should not fall into the same mistake as the old birds.—A ONE-YEAR SUBSCRIBER.

IMPORTATIONS IN THE SIX MONTHS ENDING JULY 5:—

	1852.	1853.	1854.
Guano (Tons)	88,682..	50,779..	98,952
Potatoes (Cwts.)	189,410..	713,941..	74,956
Poultry { in value, live } { and dead }	£13,575..	£7,484..	£14,292
Eggs (in number) ..	64,418,591..	67,631,380..	72,269,605

ABRONIA UMBELLATA.



[*Abronia umbellata*.]

RAISED from seeds, received from Mr. Hartweg in January, 1848, and said to have been collected on the sands near the sea-shore, Monterey, California.

This plant, like the rest of the genus, grows naturally in loose sand, the particles of which adhere to its glutinous surface. In such places it creeps along the ground, producing long rooting stems, and ovate obtuse succulent leaves, fringed with soft hairs, which almost disappear in dried specimens. The flowers are formed in close umbels, and consist of a long violet tube, with a five-cleft flat limb, the lobes of which are regularly two-parted. It has much the habit of a Verbena, but the flowers are agreeably sweet-scented.

It is probably not quite hardy, but it succeeds well under the same treatment as that given to the different kinds of Verbena. It is easily increased either by seeds or cuttings, and is very suitable for placing in the open border, treated as an annual. It requires a light, rich soil to grow in, and flowers from June to October.

It must be regarded as a very desirable plant for growing in pots and beds. The flowers are exceedingly fragrant, especially in the evenings.—(*Hort. Soc. Journal*.)

ERIA ACERVATA.

PRESENTED by the Honourable Court of Directors of the East India Company, among whose collections it often occurs.

This little Orchid is one of a set scarcely known in gardens, the peculiarity of which consists in the stem when fully formed being nothing more than a pseudo-bulb. These little pseudo-bulbs are compressed bodies, in form not unlike a flat flask, and piled one over the other in the singular manner shown in the annexed cut, which represents the plant of its natural size. The flowers are white, smooth, with a slight tinge of green, but otherwise colourless. The lip is three lobed, with three elevated parallel lines, the middle lobe the longest, oblong, and acute. The foot of the column is neither chambered nor toothed.

In all respects this plant is so entirely an *Eria* that it is referred to that genus, notwithstanding that, in the flowers examined, the number of its pollen masses was only four, instead of eight. But this may have been accidental. In its three-ridged lip, and reflexed bracts, it so strongly calls to mind that genus, as to raise a reasonable presumption that the number of pollen masses would, in more perfect flowers, be as usual.

A hothouse plant of no horticultural interest.—(*Hort. Soc. Journal.*)

NOTES FROM PARIS.

In a recent number of the *Revue Horticole*, M. Dupuis, of the imperial school at Grignon, has some observations on the two species of *Gymnogramma*, *Aurea* and *Argentea*, and he introduces what he considers a distinct variety under the name of *G. hybrida* Mart., called, by Link, *Ceropteris Martensii*. It is described as having the fronds bipinnate, with the primary divisions attenuated at the summit; the pinnules are oval lanceolate, serrated; the lower ones pinnatifid, the upper ones joined at the base; all the fronds are said to be covered with a pale yellow powder.

It is stated that the two well-known species were grown for some time near each other in one of the houses of the Botanic Garden, Louvain, and no other Ferns were in the house; the sporules of *G. aurea* were sown by M. Donkelaer, the gardener, and the young plants which sprung up were, in general, as to form, habit, and all the characters, intermediate between *Aurea* and *Argentea*, being even more like the latter than the parent plant; at least, the fronds had more of the vigour of *Argentea* than the delicate elegance of *Aurea*.

M. Pepin, of the Garden of Plants, has a note on the effects of sulphur on Camellias and other kinds of house plants, to show that, though sulphur may be good for Vines and Peaches, there is danger in using it for other plants in the same manner. He mentions an instance in which the gardener of a gentleman residing in Paris had applied it, in the month of October, to young Camellias covered with insects, thinking, as it is stated, that by this plan he would get rid of them in the same way as those on the Peaches treated for blight in the open ground. But as the conditions were very different, the results were not the same. It appears that the Camellias in question, about fifty in number, were from three to six feet high, planted out in clumps and *en espaliers*; some of them only were in pots. Those in the clumps were trained in the pyramidal form, and the others in the fan form along the walls of the house. The borders of the clumps were filled with miscellaneous plants, having a margin of *Lycopodium Brasiliense*. Shelves running round the house were filled in the same way.

[*Eria acervata.*]

The sulphur was applied in the evening, and next morning the ground was covered with Camellia buds. Some days after the young branches were affected seriously, and, subsequently, the whole of the wood down to the very roots, so that, with the exception of *Donkelaerii*, *mutabilis*, *Chandlerii*, and *elegans*, the whole of the Camellias died. Among the ligneous plants saved, the principal are a *Ficus elastica*, about seven feet high; the buds and terminal leaves, however, have been much affected. With this were a *Dracena australis* and some varieties of *Epiphyllum Ackermannii*. It appears that the Lycopodium which formed the margin, twenty-five varieties of Azalea in pots, a collection of Heaths, *Hebrothamnus elegans*, *Clematis Japonica*, *Passiflora Belotii*, *Daphne Indica*, and more than a hundred other plants of similar kinds, have been destroyed by the sulphurous vapour which was produced during the night in the house.

M. Pepin observes, that, as is well known, sulphur is

used in many cases for plants in stoves and greenhouses; but it is necessary to understand the nature of the insect and the plants to be operated on. Great caution must be used, also, as to the quantity of sulphur proper to be employed, as well as the particular parts to be operated on. It must not be supposed that sulphur may be used as freely in a house as in the open ground.

M. Alphonse Karr, known chiefly for his clever *feuilletons* in the press here, and as a distinguished amateur of Roses, communicated, some time ago, to the *Illustration*, an interesting article containing a selection of a hundred and forty varieties, with their colours, and, in many cases, the names of their raisers, as well as the date of their introduction. This communication, which has been copied by the *Revue*, is of considerable length, but is valuable in several respects. With the exception of one or two items, the historical particulars of new plants, whether species or varieties, are not generally appreciated as they ought to be. They are, therefore, seldom noted and enregistered with sufficient care. M. Karr has been at much pains to ascertain the origin of the sorts enumerated, but, for obvious reasons, his success has not been so complete as could be wished. His paper is also valuable, inasmuch as it shows the relative positions of the varieties named in the estimation of six of the principal Rose growers on this side of the channel, and in this way people may see how far their own opinions are in accordance with the judgment given. It may also enable others to compare their own description of colours with those of persons who may be presumed to understand this branch of the subject, difficult enough to settle, if we may judge from the various Rose catalogues published, in which every person seems to make a point of having a description of his own.

As has been hinted, M. Karr invited a number of the most noted Rose growers to give a list of a hundred and forty varieties, which should contain only the very best. Out of the number of persons thus invited only five were able to reply. These are M. Hardy, son of the director of the Garden of the Luxembourg; M. Laffay, a famed raiser of new sorts; M. Margottin, M. Rene, and another, M. Karr's own choice also included. We are not informed why such a limited number was decided on, and it was not accepted without a gentle protest. M. Karr states, however, that he would ten times rather have a hundred good varieties than a thousand different sorts of which two-thirds should not be above mediocrity, and that out of three hundred Rose-trees in his garden, there are not more than sixty different varieties.

The Roses with the same names given by the whole six persons are limited enough, thus:—*Duchess of Sutherland*, delicate rose, raised from seed by M. Laffay; *Géant des Batailles*, brilliant crimson, raised by M. Guillot; *Souvenir de la Malmaison*, pale flesh colour, raised by M. Beluze, of Vaise, near Lyons, in 1743. Malmaison, I may observe, is one of the Imperial Chateaux near Paris, and was one of the places to which Napoleon retreated after Waterloo. *Rose de la Reine* completes this list: it is described as very large (a vague and unsatisfactory description after all), rosy-lilac; it was raised by M. Laffay in 1835, and it flowered for the first time in 1841.

The Roses named by the five out of the six comprise—*Dupetit Thouars*, violet-red; *Duchesse de Montpensier*, delicate rose, bright rose in the centre, raised by M. Margottin in 1846; *Madame Laffay*, clear red, raised by M. Laffay; *Vicomtesse Decaze* (Tea), pale yellow, centre deep yellow; *Chromatella* (Noisette), bright yellow; *Prince Albert*, rose and violet, raised by M. Laffay, at Bellevue, in 1840; *Paul Joseph*, purple and crimson; *New Persian Yellow*, bright yellow.

Those which received four votes are as follows:—*Madame Angelina*, yellowish-white, turning flesh colour, raised by M. Chanet, of Gentilly, in the department of the Seine; *Vicomte de Cussy*, cherry-red; *Comtesse de Duchâtel*, bright rose, raised by M. Laffay. (The Comte de Duchâtel was the last minister of the interior under Louis Philippe. I suppose this Rose is named in honour of his lady.) *Lady Alice Peel*, rosy-carmine, raised by M. Laffay; *Devoniensis* (Tea), yellowish-white, deeper at the centre; *Adam* (Tea), white, raised from seed, at Rheims, in the garden of M. Adam, in or about the year 1838; *Madame Aimée*, delicate

flesh colour; *Solfaterre* (Noisette), sulphur-yellow; *Comte de Montalivet*, violet-red, shaded with purple; *Georges Lecamus*, clear rose; *Jacques Luffite*, rosy-carmine, raised from seed by M. Vibert in 1846; *Marguerite d'Anjou*, satiny-rose; *Edouard Desfossés*, clear rose, raised in 1840 by M. Renard Courtin, of Orleans; *William Jess*, lilac-carmine; *Aimée Vibert* (Noisette), white in bouquets, raised by M. Vibert; *Lamarque*, white, centre yellow; *Rose du Roi*, red; *Cristata*, rose, raised in Switzerland in 1827, introduced by Vibert; *Acidalie*, white, tinged with rose, raised in 1837, at Angers, by M. Rousseau; *Souchet*, purple-violet, raised by M. Souchet, of Bagnolet; *Mistress Bosanquet*, fleshy-white; *Triomphe du Luxembourg* (Tea), coppery-rose, raised by M. Hardy; *Auberon*, deep rose, raised in 1840 by M. Duval, of Montmorency, near Paris; *Prince Esterhazy* (Tea), rose, shaded.

I must leave those which obtained three and two votes for my next.—P. F. K.

AN ADDRESS

TO THE PUBLIC BY THE COUNCIL OF THE HORTICULTURAL SOCIETY OF LONDON.

THIS Society was founded in the year 1804, by Sir Joseph Banks and other gentlemen, for the purpose of "collecting every information respecting the culture and treatment of all plants and trees, as well culinary as ornamental, and for giving premiums in Horticulture whenever it should be judged expedient to do so."

In the year 1809 the Society was created by Royal Charter a Body Corporate "for the improvement of Horticulture in all its branches, ornamental as well as useful;" by this measure personal liability for debts to be incurred by the Corporation was for ever extinguished, its power of action was largely increased, and it at once took its place by the side of the Royal, Linnean, and other Chartered Societies, formed for the promotion of science.

For more than half a century the Society has steadily pursued the path traced out by the Charter. It has minutely examined the qualities, and reduced to order the names, of fruit-trees and of esculent plants; it has directed the attention of scientific as well as of practical men to the improvement of the arts of cultivation; it has introduced at much cost great numbers of exotic plants to decorate our gardens; it has published many volumes filled with important treatises upon almost every subject in which the gardener is interested; it has formed a very extensive Garden and Orchard, in which have been collected from time to time numerous plants, valuable for their utility or beauty; it has given a great impetus to cultivation by its public exhibitions of garden produce; it has been a school from which have sprung some of the most distinguished gardeners of the present century; and it has given away to its Fellows, and to public establishments, above a million and a half of plants, packets of seeds, and cuttings. In effecting all this about £250,000 have been expended, of which £40,000 have been consumed in the creation of the Garden, more than £2000 in forming collections of drawings, models of fruit, &c., £13,000 in the mere cost of procuring new plants and seeds, while above £20,000 have been directly applied in the form of medals and money prizes for the encouragement of Horticulture.

In these great efforts it has exerted itself beyond its strength. Before 1830, a heavy debt of more than £20,000 had been incurred; and the Corporation is still oppressed by about ten thousand pounds worth of liabilities, of which not more than £3000 have accrued within the last twenty years. This late increase of debt has been caused by the combined action of unpropitious seasons, &c., which have rendered the Great Garden Exhibitions latterly unprofitable; and of diminished income, caused by deaths and other adverse circumstances.

It is obvious that such an accumulation of debt will, if unchecked, speedily destroy the Society; and it is to avert this calamity—for a public calamity it would really be—that the present Council have resolved upon endeavouring to effect certain changes in the organisation of the Society, calculated, as they trust, at once to extricate the Corporation from the debt which has of late years so greatly impeded its action, and to place it in a secure and advantageous position for the future.

The gentlemen who constitute the Council have gratuitously undertaken the task of re-organising a most useful institution surrounded by difficulties arising from early errors, for which no one now alive is responsible. They have no purpose whatever to serve beyond promoting what is by all admitted to be of great social importance—the advancement of the art and science of Gardening, out of which Agriculture itself has sprung. And they throw themselves upon the public for the means required to effect their object.

They have set on foot a voluntary subscription, which has been most liberally met by many of the Fellows, and even by gentlemen who are not Fellows of the Society; they have determined upon selling the lease of the House in Regent Street, and certain other corporate property which can be parted with without material inconvenience; and they are reducing the expenditure of the Corporation to the lowest possible point consistent with maintaining its efficiency. By such means they hope to extinguish the debt, or to bring it within such narrow limits that it will no longer be an impediment to freedom of action.

In carrying on the Society the Council propose to maintain the Garden, to put the introduction of Exotic Plants and Seeds upon a new and more convenient base, to hold the usual Monthly Meetings and Exhibitions in London, to renew experiments on the cultivation and quality of fruits and esculents, and if found advisable, even to revive hereafter, upon another plan, the Exhibitions in the Garden itself.

But to effect these objects the public must give its hearty support, by joining not only in the voluntary subscription which has been opened, but in *strengthening the Society by an abundant introduction of new Fellows*. For this purpose the Council offer all the facilities in their power. It has long been the opinion of some of them that an Annual Subscription of £4 4s. is too high in cases where members do not desire to avail themselves of the distribution of plants from the Garden; and that the sum paid before the year 1818, namely, £2 2s. a year, was more commensurate with the advantages to be derived from joining the Society. It is now determined that all members joining the Society from and after the present date shall have the option of paying £4 4s. a year, receiving their share of the plants and seeds distributed from the Garden, and holding a Transferable Ivory Ticket; or of paying £2 2s. a year, receiving such seeds or cuttings as it may be found possible to procure in sufficient abundance for distribution in the London Office, and not holding the Ivory Ticket. Of seeds and cuttings, a proper provision will be made by opening communications with our Colonial and other public Garden Establishments.

In no case in future will an Admission Fee be required, but all new subscriptions will be payable in advance, instead of retrospectively as hitherto.

Under these arrangements the privileges of the Fellows will consist:—

1. In a participation in the distribution of plants and seeds, and holding a Transferable Ivory Ticket, which shall give the bearer all the personal privileges of the Fellow except attendance at SPECIAL GENERAL MEETINGS of the Society, according to their rate of subscription.
2. In free personal admission with friends (the number to be fixed hereafter) to the House of the Society, the Library, the Garden, and all public meetings.
3. In issuing orders for the free admission of a limited number of their friends to the Garden and all public meetings. (The limit to be in future assigned to this privilege is under consideration.)
4. In purchasing at a lower rate than the public a limited number of tickets, whenever tickets of admission to special exhibitions in Loudon or elsewhere shall be provided for sale.

Such advantages the Council believe to be an amply sufficient return for the annual subscriptions as now settled; and they present them to the public with an earnest hope that they will be so regarded by all sincere friends of Horticulture.

Should the present plan be supported strenuously, the future career of the Society may be productive of greater public advantages than ever, and the progress of the art of Gardening be still felt in every village in the kingdom. If,

however, there should not be zeal enough among the lovers of Horticulture, the Council will be unable to render the Society further assistance, the Garden must be relinquished, and the career of this great national association be inevitably brought to a speedy close. They therefore appeal not only to the Fellows of the Society, but to the great public itself, for support in this their endeavour to uphold one of those most useful institutions by which this country has for half a century been honourably distinguished beyond all others.

By order of the Council,

J. FORBES ROYLE, M.D., *Secretary*.

21, Regent Street, July 12th, 1856.

TO CORRESPONDENTS.

ORCHIDS (S. J.).—There is no doubt the sprig of *Oncidium* is from a plant of the true *Oncidium Wentworthianum*; the dark shade on the pseudo-bulb is a certain specific character. The *Epidendrum* is an undescribed, small species, of which there are plenty imported from South America, and are so comparatively worthless that botanists consider them as weeds, not worthy of a description or culture. We still think the bloom you sent last year is *Oncidium pubes*, but shall be glad to have another specimen when it blooms again. Do not think it a trouble to us; we are always glad to answer all queries sent to us. The specimens came in excellent preservation; the packing their ends in damp moss in a tin-box is the very best mode of sending flowers to a distance.

EXHIBITING FRUIT-TREES IN POTS (Kilkenny).—We consider your note quite uncalled-for. Mr. Ferguson is in favour of this mode of exhibiting; he only condemns those who do not cultivate in this manner superiorly.

FORMING A GREENHOUSE (A One-year Subscriber).—Your glazed summer-house will do. Buy our Manual "Greenhouses for the Many."

BEES WITHOUT QUEENS (A Kilkenny Subscriber).—When your bees attempted twice to swarm there could be no queens with them, otherwise they would not have returned to the hive. Most probably, from some cause or other, the old queen was not able to leave the hive with the bees; in that case she would destroy the young queens as soon as they were bred, even the *tarva* in their cells. The same often happens when bad weather prevents the old queen from leaving the hive with the first swarm; after which there can be no second one. Heat and the crowded state of your hive caused the bees to lie outside, as also their instinct to cluster, in order to secrete wax, as if they had swarmed. But the cluster being, of course, queenless, your friend's attempt to get the bees to settle in another hive like a swarm could be of no avail, unless he had put a queen to them, or fixed in the hive a piece of brood comb containing the larvae of working bees, removed the hive to a little distance, and confined the bees about a day, in order that they might forget their old home. We should observe, that bees have the power of rearing a queen from the larva of a working bee; but such plans are hardly practical. You did not give your bees enough room, for the hive must contain extra bees, equal in numbers to two or three swarms.—J. W.

LASTREA CRISTATA.—W. B. says—"In giving the history of one of our native Ferns, *L. cristata*, you mention Fritton Water (its neighbourhood) as being one of its habitats, and which I understood you to say was in Norfolk; but Fritton is really in Suffolk—a great portion of it belongs to this estate (Summerleyton Hall). In its neighbourhood I have stood a few winters' storms, superintending trenching and planting; you may, therefore, judge I know a little about it. I believe, however, you are right in saying it has been found there, for I know a person who has found it; but I have never met with it myself."

INK FOR ZINC LABELS (B. T.).—No. 287 can be had for threepence of any bookseller.

NAMES OF PLANTS (W.).—*Galium verum*, or Yellow Bed Straw. (T. B. S.).—*Asplenium ruta-muraria*, or Wall Rue.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

- BRIDLINGTON.** August 27th. Sec. Mr. T. Cape, Bridlington.
ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.
GLOUCESTERSHIRE. Nov. 26th and 27th. Sec., E. Trinder, Esq., Cirencester. Entries close Nov. 1st.
LEOMINSTER. Thursday, October 16.
MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. At Wigan, Thursday, August 7th. Secs. for poultry, J. H. Peck, and J. S. Marshall, Esqrs. Entries close July 24th.
NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.
NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.
YORKSHIRE AGRICULTURAL SOCIETY. At Rotherham, Wednesday and Thursday, August 6th and 7th. Sec., J. Hannam, Esq., Kirk Deighton, Wetherby.
N.B.—Secretaries will oblige us by sending early copies of their lists.

ARE THE DECISIONS OF OUR POULTRY JUDGES TO BE FINAL?

EACH succeeding year, each succeeding month, ay! every Poultry Exhibition that is held, fully proves how vastly increased a difficulty committees now find it to secure the

attendance of gentlemen to efficiently and faithfully fulfil the duties of Poultry Judges. The greatly increased value of the premiums *now* offered for the successful, comprising really valuable (and, at the same time, much-coveted) articles of plate, on the one hand, naturally augments considerably the number of competitors, whilst the grave and serious attention that has, during the last half-dozen years, been paid to the careful breeding, and not less attentive selection of *show* stock, adds even still materially to the difficulties that press sorely upon those parties appointed to fulfil this thankless and really responsible duty. Consequently, there are but few parties now willing to incur the unpleasantness that frequently arise from unjust and ill-timed complaints from exhibitors who, if they cannot win, desire, as they call it, "to bring it to a wrangle." Where there is not actually any cause for disputation, it must be obvious to all who simply wish well to Poultry Shows, that to continually pursue this course has but one single downward tendency—the wilful irruption of kindly feeling; and, eventually, must limit greatly both the utility and popularity of those annual re-unions, where every enthusiastic amateur ought, undoubtedly, to meet his rivals for poultry honours with perfect friendliness and good will. Where unsuccessful, his efforts should be undoubtedly and anxiously directed to improve his own stock for future contests, and aspire to distinction by a closer and possibly triumphant competition in coming years. But is not the course we have just suggested too frequently the very opposite of the one pursued?

Many circumstances have come to our knowledge that prove how difficult it is to some amateurs to reconcile themselves to defeat under any circumstances whatever; and could some of the complainants take "a private view" of all the correspondence that ensues from this outburst, produced by long-cherished hopes unexpectedly blighted, in cases of extensive classes, we surmise even his or her indignation individually would rather give way to downright risibility, from the sheer absurdity with which each party in so numerous a body lays obstinate claim to a premium that cannot possibly be divided, or appointed to more than a solitary recipient among the numerous grumblers. We do not now intend to enter into any disquisition upon the rectitude or impropriety of particular awards, but simply desire to enforce the general bearing of the practice—we have just propounded to our readers, that each one among them may form his own views as to the most probable issue. As "an illustration."—Within the last half-year, at a certain Poultry Show, more than a dozen and a half exhibitors competed for one single set of prizes, the principal one "a cup" of considerable value; and no doubt exists that the competition was wondrously improved by the hope "looming in the future" of each amateur that the day was not far distant when he could easily quaff his porter from the premium-tankard, bearing, too, an engraved particular of his own individual superiority among the many. Of necessity, the hopes so fondly indulged in were only realised in a single instance. The sequel was ludicrous; *all* the aspirants, except one (and the lucky winner) laid remonstrative claims, by letter, either to the Judges or committee, as to the gross injustice of the final decision, each asserting, of course, "no one could have then found fault," had the prize been awarded to their own particular favourites!

In the instance alluded to, no doubt exists but that the majority of the parties thus complaining and "protesting" against the injustice to which each of them personally had been subjected, were influenced entirely by honest and sincere convictions of the verity of their position. Perchance, too, as we know was the case in at least a portion of them, their convictions were not supported by lengthened experience of the requirements "indispensable to success," from being just at the commencement of their career as "exhibitors." In such circumstances, highly-raised opinions of their own "show-birds" are natural and easily explicable, together with an expression of "surprise" that other specimens could excel them, when they were not themselves competent, as owners, to perceive the difference, far less the "superiority of the winners."

But there is still another class of the dissatisfied, whose ill-success is not unfrequently attributable, *in toto*, to the really piteous condition of first-class fowls, that the inconsiderate owner has sent to every show they were in time for

attending, and even, in various instances, travelling from one exhibition to another, at considerable distances, without the least rest of any kind whatever. It is then confidently asserted that their previous winnings are the very best possible proof of their superiority, and why their altered position on the prize-list? The fact is, that uncared-for, toil-worn, and dejected, the poultry thus defeated are merely the ruin of their former selves, the whole produced by the combined influences of anxiety, prolonged excitement, and unnatural sustenance. These are just the cases that serve *most* to test the discriminative powers of the arbitrators, and if adverse to the interests of the weakened fowls, are not unfrequently productive of unmeasured remonstrances against the award from the disappointed party possessing them. To the owner, the change has been so gradual as to interfere but little with his fondly-cherished hopes of unlimited success; but the deterioration has at length reached its culminating point, and the first adverse decision proves the herald of unmingled indignation. But the remonstrators are evidently not always actuated by either one or the other motives we have just described, and a case of thoughtless, uncalled for complaint has just come to our own knowledge, that will best tell its own tale, and bear its own construction. As a natural course, we purposely withhold the names of parties, places, &c., and simply present the correspondence to our readers, with this one comment, that it is scarcely to be hoped for that impartial, unprejudiced individuals will continue to officiate as Poultry Judges if so unprecedented a mode of annoyance is indulged in, and practices so occult and irreconcilable with outward first-sight appearances are adopted.

A POLISH CORRESPONDENCE.

THE LOSER TO THE JUDGE.

"——— HALL,
"July, 1856.

"DEAR SIR,

"As my *Polands* have been so often beaten of late, and as you were the Judge at ——— on ———, where, as you would see, I was an exhibitor, I wish you would be good enough to tell me how it was I did not gain the cup with my White-crested birds. I ask how it was, for I am at a loss to know how such birds as the ones I allude to can, *at present*, be beaten. I was asked by a great many people what was the reason I was beaten; for they said, look at the cup birds—top knots pulled back off their faces, every black feather, or nearly so, pulled out; what few they had it is QUITE RIDICULOUS to suppose were NATURAL. Why, if such trimming is to be allowed, Poultry Shows will soon cease, for all RESPECTABLE people will draw out, and give up keeping fowls; such, however, is not, at present, *my* intention. The cock was as poor a bird as *any I ever saw*, very little larger than a Bantam cock, his top-knot equally small; in fact, a *very* poor companion for his hens. Mr. ——— was pleased to say of my birds (and I believe you were present at the time), 'that they were the best pen of this class he ever saw.' Now, it is impossible that they could have fallen off within so short time since the above was said; but I am not writing this letter to condemn your judgment, but simply to know where it is my birds are wanting, to be almost overlooked, and I shall esteem it a very great kindness if you will inform me.

"Yours, &c."

THE LOSER TO THE WINNER.

"——— HALL,
"July, 1856.

"SIR,

"I write to ask you if you will part with your pen of White-crested *Polands* which gained the cup at ——— on ———? If so, at what price?

"Yours, &c."

THE JUDGE TO THE LOSER.

"DEAR SIR,

"July, 1856.

"Your letter came duly to hand yesterday, but my absence from home prevented my reply by return of post, as I did not see it until this morning. I must premise what I have to say by the simple avowal, that in all my poultry experience I never met with so singularly preposterous a case before, whilst I heartily hope, and verily believe, I shall never do so again. You ask, 'Why your fowls did not win the cup?' and instantly and irately repeat the query, pronouncing the successful ones 'as having their top-knots

pulled back off their faces, every black feather, or nearly so, pulled out,' and state, 'What few they had, it is QUITE RIDICULOUS to suppose were NATURAL;' adding, 'Why, if such trimming is to be allowed, Poultry Shows will soon cease, for all RESPECTABLE people will draw out, and give up keeping fowls; such, however, is not, at present, my intention. The cock was as poor a bird as any I ever saw, very little larger than a Bantam cock, his top-knot equally small; in fact, a *very* poor companion for his hens.'

"Such is your openly avowed and written opinion of the successful ones.

"I confess I did not handle any of the black Polands at ———, but awarded the prizes simply from eyesight only; nor did I deem it possible I could be deceived in the very gross manner you had represented.

"Still, however, to make assurance doubly sure, I called on my townsman, ———, whom I previously only knew by sight, to request another and closer examination of the disputed fowls. I tested them most minutely in hand, one by one, and in *perfectly unqualified terms* I do now assert, to the very best of my knowledge and belief, not a single feather had been abstracted; and again, *most decidedly*, every feather in their crests now present—which are unusually abundant—is naturally produced where it now holds its position.

"Mr. ——— is reputedly respectable, and naturally inquired the causes that led to my suspicion, and I, therefore, showed him your letter.

"*The enigma was at once exposed.* By the same post that complained so lustily to myself of their utter unworthiness and worthlessness, you endeavoured to become their purchaser!

"You are personally entirely unknown to me; neither do I wish to add to the self-abasement you must naturally feel from this exposure. I cannot forbear saying, however, such actions are but little calculated to materially add to the '*respectability*' of Poultry Shows, or insure their *permanency*.

"You have complained in unmeasured terms of my decision without any cause, maligned the proprietor of the successful poultry by groundless accusation, and yet endeavoured to procure them by purchase for yourself,—all by the same post. I therefore simply conclude,

"As remaining, &c."

THE WINNER TO THE LOSER.

"He that steals my purse, steals trash.

* * * 'Twas mine,
'Tis his, and has been slave to thousands.
But he who robs me of my good name
Robs me of that which not enriches him,
But leaves me poor indeed."

"Sir, ——— COTTAGE, July, 1856.

"You will, doubtless, be equally as much surprised to receive a second communication from me as I am myself at finding such a necessity forced upon me. Not, certainly not, of my own seeking, but originated by offensive allusions you have considered yourself justified in making in a letter addressed to Mr. ———, this day handed to me, with reference to the means by which I have attained the distinction he, in his capacity as Judge, has thought proper to attach to the pen of Polish fowls exhibited by me at ———. Now, such remarks contained in your letter, now before me, are altogether too flagrant to be passed over (at all events by me) with a merited contempt; but, Sir, from inquiries I have thought proper to make respecting you, I consider the circumstances of your social position entitled you to every respect due to a gentleman; neither will I descend to the attempt of placing you in any other position, or allow myself to be cheated by any such feelings from the gross injustice you have done me. I would much rather return good for evil; but I do regret that you, so much, so very much, my senior in years, should so far compromise your dignity as to attack and charge me with the perpetration of a wanton deception, so totally unknown as I am to you, and, without egotism, let me say, unworthily as I am of the dishonest acts you impute to me. To remark individually upon your observations would impose upon me a task I have neither time nor inclination to attempt; and, indeed, were I disposed to analyse one so utterly devoid of reason, and containing, as it does from the commencement to its end,

such a conglomeration of absurd contradiction, would render it necessary for me to entertain feelings in harmony with yours, the possession of which I disown. I know not whether I am correct in my inference, but to an impartial person, the tenor of your writing would really lead to the supposition that your influence as a '*respectable*' individual ought to have commanded the desiderata you appear so much to covet, viz., the honorary distinction that an impartial Judge, and a gentleman, has thought proper, in the just exercise of his duty, to award to me instead of yourself. I can afford, however, to wave this kind of absurdity, and will leave you to content yourself with the pleasant reflections of an ambitious but unsuccessful exhibitor. I tell you, candidly and fearlessly, that it is a gross injustice and libel to charge me with tampering, otherwise trimming, the top-knots of my birds, and an assertion as utterly untrue as it is uncharitable. With this simple contradiction to your very gratuitous imputations I will conclude this communication with such feelings of indignation that I can scarcely find words to express. But let me, for one moment, reverse our positions, and ask you what your own feelings would be under the circumstances in which you have thought proper to place me? and would you not consider it a duty you owe to yourself to repudiate such an attack? What may be your opinion, I neither know nor care. I have just taken the course any honest man would not fail to have done, however unpalatable it might prove to those who might plume themselves with the idea that they may talk and act as they think fit with impunity.

"Yours, &c."

THE LOSER TO THE JUDGE.

"——— HALL,

"July, 1856.

"DEAR SIR,

"I received your letter yesterday, and now beg to reply to it. You appear to have most strangely mistaken the spirit of my letter. You regard it as written in anger, and meant as a direct attack upon yourself, and the successful winner of the cup for Polands at the late ——— Show. Such was neither my feeling nor my intention. I considered my birds in no one particular inferior to the winners; and this opinion is carried out, I find, in *The Field*.

"I wrote to you, as the Judge, to inquire how it was that they were so far in the rear—why they did not win the cup? wishing to learn in what points they were deficient.

"In my letter, I gave an opinion as to the trimming of the winning birds, which, you say, you believe is a false one; that opinion I drew from my own experience. In giving it, my intention was not to malign the proprietor of the successful poultry by groundless accusations. My object was plainly to lay before you things as I had noticed them, and what I, as well as others present, thought. Had I imagined for one moment that my remarks would have stirred up any ill-feeling, I should have been the last person to have made them.

"You say, 'By the same post that complained so lustily to myself of their utter unworthiness and worthlessness, you endeavoured to become their purchaser.' This circumstance you regard as throwing light upon the other matters. Now, I conceive that, to interpret my actions in any way you like, is jumping at a conclusion which you cannot prove. The motives which led me to wish to purchase Mr. ——— birds are not for you to put what construction you like upon them; and further, by attributing some unworthy motive, I think you have indeed wronged me by groundless insinuations.

"I would simply add, that the letter I wrote to you was intended *solely* for yourself, and, therefore, I gave my opinion boldly and plainly. Had you felt yourself aggrieved by the tone of it, or even given me a hint that such was the case, I would willingly have retracted anything which in the heat of the moment I might have written.

"I remain, &c."

WHITBY POULTRY SHOW.

On July 16 and 17, the first exhibition of poultry took place in St. Hilda's Hall, and never was such a collection of rare and valuable birds seen in Whitby. The wire pens were admirably arranged in parallel rows in the body of the hall,

and round the walls in the gallery, so that every bird could be inspected without the least inconvenience. Great praise is certainly due to Mr. S. Burn, the honorary secretary, who has spared no time nor labour in getting up and carrying out the exhibition. We think the committee made a mistake in fixing the charge of admission so high for the first day; but their object was, nevertheless, most plausible, viz., that of making the exhibition self-supporting.

The Judges were the Rev. R. Pullienc, Kirby Wiske; R. Jackson, Esq., York; Mr. M. Clarkson, Whitby; and Mr. Allan, Whitby, for Pigeons.

SPANISH.—First, Mr W. English, Pocklington. Second, Mr James Dixon, Horton, near Bradford. Highly Commended—Mr Samuel Burn, Whitby. Commended—Mr John Shorthose, Shieldfield Green, Newcastle. *Chickens of 1856*—Second, Mr M. Ridgeway, Dewsbury.

DORKINGS (Coloured).—First, Rev. G. Hustler, Appleton, Tadcaster. Second, Pelham W. Barnard, Esq., Bigby Brigg, Conraced—Mr Wm. Burn, and the Rev. J. F. Newton, Kirby.

DORKINGS (White).—First, Mr Edward Pease, jun., Southend, Darlington. Second, Mrs H. Sharp, Bradford. *Chickens of 1856*—First, Sir John Nelthorpe, Bart., Seaby Hall, Brigg. Second, Rev. G. Hustler. Commended—Rev. J. F. Newton (for two entries), and Sir John Nelthorpe.

COCHIN-CHINA (Cinnamon or Buff).—First, T. H. Barker, Esq., Hovingham.

COCHIN-CHINA (Partridge or Brown).—First, Mr Wm. Dawson. Second, Mr James Dixon.

COCHIN-CHINA (any other Variety).—First, Mr Wm. Dawson. Second, Mr H. Beldon, Eccleshill Moor, near Bradford. *Chickens of 1856*—First and Second, T. H. Barker, Esq.

POLISH (Golden).—First, Mr Jas. Dixon. Second, Mr M. L. Simpson, Whitby.

POLISH (Silver).—First, Mr James Dixon. Second, Mr H. Beldon.

POLISH (any other Variety).—First, Mr J. Dixon. Second, Mrs H. Sharp. *Chickens of 1856*—Second, Mr J. Dixon.

GAME FOWLS (Black and Brown-breasted and other Reds).—First, Mr E. Wright, Horton. Second, Mr James Dixon.

GAME FOWLS (any other Variety).—First, Mr Christopher White, Whitby. Second, Mr James Dixon. Commended—Mr M. Ridgeway. *Chickens of 1856*—First, Mrs H. Sharp. Second, G. Hutchinson, York.

HAMBURGS (Golden-pencilled).—First, Mr H. Brown, Castle Gate, Malton. Second, Mr J. Dixon.

HAMBURGS (Silver-pencilled).—First, Mrs H. Sharp. Second, Mr J. Dixon.

HAMBURGS (Golden-spangled).—First and Second, Mr James Dixon.

HAMBURGS (Silver-spangled).—First, Mr W. Firth, Stourton. Second, Mr James Dixon. Highly Commended—Mr James Dixon. *Chickens of 1856*—First, P. W. Barnard, Esq. Second, Mrs H. Sharp.

HAMBURGS (any other distinct Variety).—First, Mr James Dixon. Second, Mr Wm. Dawson. Third, Mr H. Beldon. Fourth, Mr John Teasdale, Welburn.

BANTAMS (Laced).—First, Mr J. Dixon. Second, Mr Wm. Bell, Whitby.

BANTAMS (any other Variety).—First, Mr James Dixon. Second, Mr M. Ridgeway.

GESE.—First, Mr John Pybus, Uggelbarnby, near Whitby. Second, Mr M. L. Simpson, Whitby. *Goslings of 1856*—First, Mr John Wilkinson, Whitby.

DUCKS (Aylesbury).—First and Second, Miss M. Taylor, Sewerby Cottage, Bridlington. Highly Commended—Pelham William Barnard, Esq., Bigby Brigg, Lincolnshire. Commended—Mr Samuel Burn, Whitby.

DUCKS (Rouen).—First, Mr John Weston, Aylesbury, Buckinghamshire. Second, Mr H. Beldon, Eccleshill Moor, near Bradford. Highly Commended—Mr James Dixon, Horton, near Bradford.

DUCKS (any other Variety).—First, Mr Samuel Burn, Whitby (East Indian Ducks). Second, the Rev. Charles W. Giles, Sneaton Castle, near Whitby.

TURKEYS.—First, Mr Edward Pease, jun., Southend, Darlington. Second, Mr John Y. Agar, Fryup.

GUINEA FOWLS.—Second, Mr Joseph Wilkinson, Whitby.

PIGEONS.

CARRIERS.—First, Mr M. L. Simpson, Whitby. Second, Mr Richard Wilson, Egton Grange, near Whitby.

ALMOND TUMBLERS.—First, Mr Henry Beldon, Eccleshill Moor, near Bradford.

BALDS OR BEARDS.—First, Mr H. Beldon, Eccleshill Moor, near Bradford.

JACOBINS.—First, Mr H. Beldon, Eccleshill Moor, near Bradford.

FANTAILS.—First, Mr Richard Wilson, Egton Grange, near Whitby. Second, Mr H. Child, jun., Birmingham.

TRUMPETERS.—First, Mr H. Child, jun., Birmingham. Second, Mr Richard Wilson, Egton Grange, near Whitby.

POUTERS OR CROPPERS.—First, Mr H. Beldon, Eccleshill Moor, near Bradford. Second, Mr George Brown, Glazdale, near Whitby.

BARRS.—First, Mr M. L. Simpson, Whitby. Second, Mr H. Child, jun., Birmingham.

ANY OTHER VARIETY.—First, Mr H. Beldon, Eccleshill Moor, near Bradford (Hyacinths). Second, Mr Richard Wilson, Egton Grange, near Whitby (Nuns).

ANERLEY EXHIBITION OF POULTRY AND PIGEONS.

JULY 29TH to AUGUST 1ST.

THE second annual Exhibition took place last week, and we have no doubt that, with some necessary alterations, this will become a very popular and well-supported Show.

The grounds at Anerley are beautifully situated for the purpose; the time of year is favourable for a large attendance of visitors; the prize-list is a liberal one, and everything would seem to make success easy. As all our sympathies are enlisted on behalf of this Exhibition, we trust any remarks we may feel called upon to make will be taken in good part by those to whom they may refer. Our first shall be highly favourable to the liberality of the committee. Their Cups were beautiful and valuable specimens, and the winners may be proud of their prizes in every respect.

We believe this is the first Show that has almost invited protests, and it was with no small degree of surprise that those who were disposed to respond to the call learned that none would be entertained unless one guinea were paid at the time of making it. Unfortunately there were two, and we confess we await the result with anxiety, as we wish to see how they are to be carried out and settled to satisfy the parties.

Our wish is to report in the greatest spirit of impartiality, and we are bound to say, we think both the protests worthy of being entertained. The first is in the *Brahma* classes. Here both the first prizes are withheld, and also the Cup. Mr. Davies's best pen figures in the adults, and Mr. Botham showed a pen of chickens we have never seen equalled at a summer Show. Our impression is, that Judges are to decide prizes without reference to their opinions as to the merits of the breed. They have to do only with those of the fowls themselves, and if a Cup and prizes are offered by a committee, they should be awarded, unless the specimens exhibited are unworthy of them from lack of merit.

There is also here a class seldom seen at our Shows,—one for *Speckled and Cuckoo Dorkings*. The *Speckled Dorking* cock is red with white spots. In this class, two hens were shown of the proper colour, but the cock was a grey bird,—light hackle and saddle, and black and white breast. These birds had the first prize awarded to them. The protest was made on the grounds that the cock was disqualified, being in the wrong class. It was attempted to justify the award, because he had a speckled breast. But if that argument were worth anything, then most of the prize cocks in the other pens should have been shut out from competition, being speckled birds, and, consequently, wrongly classed, for their breasts were marked like the so-called speckled bird. It is bad to be too severe on colour, especially in *Dorkings*; but when there is a separate classification for peculiar feather, it should be insisted on strictly. We hope the committee will do justice in both these cases, as nothing is so painful to good exhibitors, or so injurious to a Show, as withholding prizes without strong reasons for so doing.

We were very sorry to see, in the middle of the day, a wheelbarrow of whole barley making the circuit of the Show, from which the fowls were fed by the handful. This cannot be otherwise than very injurious, especially to chickens.

The first birds in the catalogue were *Gold-laced Bantams*, followed by *Silver*. Mr. Wright, of Widnes, took the Cup and both first prizes. Many of the birds were in bad feather, but Mr. Wright's were very good. The *Black, White*, and *Game* were well represented, especially the latter. We were sorry to see Mr. Forrest's *Duckwings* unnoticed.

The *Golden-pencilled Hamburgs* were the best we have seen for a long time. An old Silver name took first prize,—Mr. E. Archer, of Malvern. There was little difference in the three prize pens; and we should, if we had to choose, take the third pen in preference to the second.

The chickens were numerous and most excellent. The two chief prizes went to Lancashire.

Mr. Archer's celebrated *Silver-pencilled*, now the property of Mr. Wright, maintained their reputation by gaining the Silver Cup. In the old and young classes of these fowls there were forty-two entries. Many of them were very good, but as a whole we did not think them equal to the Gold.

Golden-spangled brought but thirteen pens, many of them were good, and Mrs. Coleridge, of Eton, gained the Cup. We expect some of the great guns of this class are looking to Wigan, and husbanding their forces. *Silvers* numbered twenty-four; the chickens were better than the adults, but these do not keep pace with their Golden brethren.

The *Black Polands* were good, and many preferred the second pen to the first. The chickens were few, and not so good as we have seen. Mr. Bush's *Golden Polands* added another silver testimony to their former achievements, Mr. Greenhall running him hard. Mrs. Coleridge showed her beautiful pen of *Silvers*, and again took the first prize with them.

This brings us to one of the best classes we ever saw, we mean the *Spanish*. Save at Birmingham, we never saw so many first-rate birds in one class. Between the principal pens it was a hard struggle of merit, for there were no defects to disqualify birds, or to help Judges in coming to a decision. Mr. Davies took the Cup, and also the second prize, followed by Captain Hornby. Both classes of these birds are improving, as the chickens were far above the average. Mr. Perkins Jones took the first prize with an excellent pen. Young as these birds are they are old prize-takers, and were, we believe, bred by Mr. Gilbert, of Kensington.

Game fowls become everywhere more numerous, and better in quality. The Cup was awarded to a pen belonging to Mr. H. Shield; but after the Show had been some time open to the public, some lynx-eyed visitor discovered that part of the cock's tail was artificial, being tied on. When we left, no other decision was arrived at than the disqualification of the peccant pen.

Next came our old friends the *Cochins*. They are decidedly looking up. The interest people took in them is reviving, and the birds deserve it, for they are much improved. Mr. Gelderd and Lord de Blaquiere took the first prizes in the two classes with splendid birds, especially the chickens. The other names that are mentioned will speak of quality. The committee allowed only one commendation in each class, which we think unwise, as many pens deserved the highest notice that could be given. We were glad to see that, spite of the loss of many of his best birds, the Rev. G. Hodson is still able to take his place among the Grouse and Partridge *Cochin* classes, being first in one and second and third in the other; beaten for chickens by Captain Snell.

The old *White Cochins* were out of condition, but the chickens made amends; and one pen, belonging to Mr. Fowler, of Aylesbury, had the honour to take the *Cochin* Cup.

Brahmas were next, and on these we have spoken.

Greek met Greek, and then was the tug of war in the *Dorking* classes. The old birds that have nearly won their weight in silver were there—now the property of Mr. Wright: they won another Cup. Lord R. Grosvenor stood at the head of the chickens; Captain Hornby both seconds; Rev. S. Donne both thirds. A volume would not say more.

The *White Dorkings* are much increasing in size. Messrs. Antill and Manfield were the first distinguished, and their birds in their respective classes will be very hard to beat.

The *Various Class* next claimed attention. Three first and three second prizes were awarded. Mr. Tegetmeier showed some curious *Rumpless White Polands*, which were what they professed to be; but all the ingenuity in the world cannot discover *Black-crested White Polands* in the chickens that under this denomination took a first prize. As the advent of these birds has been more than once announced to the world, we feel bound to give them more than a casual notice. Their bodies are nearly white, showing darker under-feathers, their necks are spotted, and their top-knots part cuckoo, with a few light brown feathers. They may some day come out more according to the owner's wishes, but at present they have nothing to deserve the name given to them. They look like birds that would be produced by running white and dun *Polands* together for a year or two, and then taking those that look most promising.

Mrs. H. Fookes is not to be beaten in *Turkeys*.

The *Aylesbury Ducks* were good. It was an excellent show of *Rouen Ducks*—one of the best we ever saw.

Many of the chicken exhibitors in the *Game* classes com-

plained that prizes should be given to undubbed fowls. It is generally a rule that untrimmed birds should be disqualified, as they have a great advantage over those that have suffered the operation. It is easy to conceive it throws them back.

The weather was very favourable, and there was a large attendance of the principal amateurs, including many of the nobility and gentry, especially on the first day.

JUDGES OF POULTRY.—Edward Bond, Esq., Leeds, and Edward Hewitt, Esq., Sparkbrook, near Birmingham.

GENERAL MANAGER OF POULTRY, &c.—Mr. Tegetmeier.

BANTAMS (Gold-laced).—The Silver Cup for the best Pen of Bantams was awarded to Pen 2, Class 1, William Wright, Esq., West Bank, Widnes, near Warrington. First, William Wright, Esq., West Bank, Widnes, near Warrington. Second, Matthew Leno, jun., Esq., Harpenden, Herts. Third, Thomas P. Mew, Esq., West Cowe, Isle of Wight. Commended—Mrs Green, Lower Cheam, Surrey.

BANTAMS (Silver-laced).—First, William Wright, Esq., West Bank, Widnes, near Warrington. Second, Matthew Leno, jun., Harpenden, Herts. Third, Mrs Green, Lower Cheam, Surrey.

BANTAMS (Black).—First, Thomas P. Mew, Esq., West Cowes, Isle of Wight. Second, R. R. Sewell, Esq., Bridgwater, Somerset. Third, Matthew Ridgway, Esq., Dewshury.

BANTAMS (White).—First, Rev. G. F. Hodson, North Petherton, near Bridgwater. Second, Samuel Ridley, Esq., Claxton, Sussex. Third, Thomas P. Mew, Esq., West Cowes, Isle of Wight.

BANTAMS (any other Variety).—First, Thomas J. Cottle, Esq., Cheltenham (Black-breasted Red Game). Second, Edward Stansfield, Esq., Dewsbury, Yorks (Black-breasted Game).

HAMBURGH (Gold-pencilled).—First, Edward Archer, Esq., Malvern, Worcester. Second, Josiah B. Chune, Esq., Greenbank, Coalbrookdale. Third, Hon. William Warren Vernon, Woolseley Hall, Rugeley, Staffordshire. *Chickens*.—First and Second, William Bankes, Esq., Weston House, Weston, Runcorn. Third, John Marshall, Esq., Belmont, Taunton. Commended—Mr Henry Wood, Horton, near Bradford, Yorks.

HAMBURGH (Silver-pencilled).—The Silver Cup for the best Pen of Pencilled Hamburghs was awarded to Pen 5, Class 8, William Wright, Esq., West Bank, Widnes, near Warrington. First, William Wright, Esq., West Bank, Widnes, near Warrington. Second, Mrs T. H. Roper, Eton, near Windsor. Third, Rev. T. L. Fellows, Beighton Rectory, Acle, Norfolk. *Chickens*.—First, Mr J. Martin, Claines, near Worcester. Second, Mrs H. Sharp, 47, Mill Lane, Bradford. Third, Edward Archer, Esq., Malvern, Worcester. Commended—William Wright, Esq., West Bank, Widnes, near Warrington.

HAMBURGH (Golden-spangled).—The Silver Cup for the best Pen of Spangled Hamburghs was awarded to Pen 1, Class 10, Mrs Charles Coleridge, Eton, Windsor. First, Mrs Charles Coleridge, Eton, Windsor. Second, M. H. Broadhead, Esq., Stubbin, Holmfirth, Yorks. Third, George Fell, Esq., Springfield, Warrington. Commended—James Dixon, Esq., Bradford. *Chickens*.—First, William H. Swann, Esq., Farnsfield, Southwell, Notts. Second, J. K. Bartrum, Esq., 6, Richmond Hill, Bath. Mrs Henry Fookes, Whitechurch, Blandford, Dorset.

HAMBURGH (Silver-spangled).—First, Josiah B. Chune, Esq., Greenbank, Coalbrookdale. Second, Arthur G. Brooke, Esq., Cumberland Street, Woodbridge, Suffolk. Third, William Joshua, Perrott's Brook, near Cirencester. *Chickens*.—First, George Botham, Esq., Wexham Court, Slough. Second, Thomas Burnett, Esq., Hutton, Preston. Third, J. K. Bartrum, Esq., 6, Richmond Hill, Bath.

POLANDS (Black with White Crests).—First and Third, George C. Adkins, Esq., Edgbaston, Birmingham. Second, James F. Greenhall, Esq., Grappenhall Hall, near Warrington. *Chickens*.—First, George Ray, Esq., Ivy Cottage, Minstead, Lyndhurst, Hants. Third, Thomas P. Edwards, Esq., Lyndhurst, Hants (Second withheld).

POLANDS (Golden).—The Silver Cup for the best Pen of Polish was awarded to Pen 1, Class 16, R. H. Bush, Esq., Ashton Lodge, near Bath. First and Third, R. H. Bush, Esq., Ashton Lodge, near Bath. Second, James F. Greenhall, Esq., Grappenhall Hall, Warrington. *Chickens*.—Third, James Dixon, Esq., Bradford.

POLANDS (Silver).—First, Mrs Charles Coleridge, Eton, Windsor. Third, George C. Adkins, Esq., Edgbaston, Birmingham. *Chickens*.—First, George Fell, Esq., Springfield, Warrington. Second, George C. Adkins, Esq., Edgbaston, Birmingham. Third, Thomas P. Edwards, Esq., Lyndhurst, Hants.

SPANISH.—The Silver Cup for the best Pen of Spanish was awarded to Pen 4, Class 20, H. D. Davies, Esq., Spring Grove House, Hounslow. First and Second, H. D. Davies, Esq., Spring Grove House, Hounslow. Third, Captain W. W. Hornby, R.N., Knowsley Cottage, Prescott. *Chickens*.—First, Perkins Jones, Esq., High Street, Fulham. Second and Third, George W. Locke, Esq., Newport, Isle of Wight.

GAME (Black, Black-breasted Reds, other Reds, and Brassy-winged).—The Silver Cup for the best Pen of Game Fowl was awarded to Pen 16, Class 22, Henry Shield Esq., Preston, Rutland. First, Henry Shield, Esq., Preston, Rutland. Second, Henry Worrall, Esq., Knotty Ash House, near Liverpool. Third, R. R. Sewell, Esq., Bridgwater, Somerset. *Chickens*.—Charles R. Titterton, Esq., Snow Hill, Birmingham. Second, Samuel Matthew, Esq., Chilton Hall, Stowmarket. Third, William Cox, Esq., Brailsford Hall, near Derby.

GAME (White and Piles).—First, Mr James Monsey, Thorne Lane, Norwich. Third, William Grave, Esq., High Street, Chelmsford, Essex. *Chickens*.—First, Samuel Matthew, Esq., Chilton Hall, Stowmarket. Second, Mr James Monsey, Thorne Lane, Norwich.

GAME (Duckwings, Greys, and Blues).—First, Samuel Matthew, Esq., Chilton Hall, Stowmarket. Second, William Dawson, Esq., Selly Oak, Birmingham. Third, Mr James Monsey, Thorne Lane, Norwich. Commended—Thomas Pain, Esq., Laverstock Hill, near Salisbury. *Chickens*.—First, Samuel Matthew, Esq., Chilton Hall, Stowmarket. Second, Mr E. Wright, Legrams, Horton, near Bradford, Yorks. Third, Henry Shield, Esq., Preston, Rutland. Commended—C. S. Floyd, Esq., Sands, Holmfirth, Yorks.

COCHIN-CHINA (Cinnamon and Buff).—First, G. A. Gelderd, Esq., Ackrigg End, Kendal. Second, Mrs Henry Fookes, Whitechurch, Blandford, Dorset. Third, Henry Tomlinson, Esq., 10, Balkall Heath Road, near Birmingham. Commended—Joseph Allison, Esq., Friars' Place, Acton. **CHICKENS**.—First, The Right Hon. Lord de Blaquiere, Woodlands, Havant, Hants. Second, Rev. Stephen Allen, D.D., the Rectory, Walton in Gordano, Bristol. Third, Mrs Henry Fookes, Whitechurch, Blandford, Dorset. Commended—N. M. de Rothschild, Esq., Gunnersbury Park, Acton.

COCHIN-CHINA (Grouse and Partridge).—First, Rev. G. F. Hodson, North Petherton, near Bridgwater. Second, George C. Adkins, Esq., Edgbaston, Birmingham. Third, Mrs Herbert, Powick, near Worcester. **CHICKENS**.—First, Captain W. H. Snell, Hill House, Ewell. Second and Third, Rev. G. F. Hodson, North Petherton, near Bridgwater.

COCHIN-CHINA (White).—First, John R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Second, Robert Chase, Esq., Moseley Road, Birmingham. Third, Alfred Peters, Esq., Victoria Villa, Mile End, Portsmouth. **CHICKENS**.—The Silver Cup for the best Pen of Cochins was awarded to Pen 3, Class 33, J. K. Fowler, Esq., Prebendal Farm, Aylesbury. First, John K. Fowler, Esq., Prebendal Farm, Aylesbury. Second, John R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Third, Robert Chase, Esq., Moseley Road, Birmingham. Commended—Thomas Bridges, Esq., Croydon, Surrey.

BEAUMA POOTRA (Pencilled).—Second, H. D. Davies, Esq., Spring Grove House, Hounslow. **CHICKENS**.—Second and Third, George Botham, Esq., Wexham Court, Slough.

BRAHMA POOTRA (Light).—Second, R. H. Bush, Esq., Ashton Lodge, near Bath. **CHICKENS**.—First and Third, C. S. Floyd, Esq., Sands, Holmfirth, Yorks. Second, Mrs Shepherd, Howard Lodge, Tulse Hill (Silver Cup withheld).

DORKING (Coloured).—The Silver Cup for the best Pen of Dorkings to Pen 8, Class 33, William Wright, Esq., West Bank, Widnes, near Warrington. First, William Wright, Esq., West Bank, Widnes, near Warrington. Second, Captain W. W. Hornby, Knowsley Cottage, Prescott. Third, Rev. Stephen Donne, Oswestry. Commended—William T. Squire, Esq., Mildenhall, Suffolk. **CHICKENS**.—First, Lord Robert Grosvenor, M.P., Moor Park, Rickmansworth. Second, Captain W. W. Hornby, R.N., Knowsley Cottage, Prescott. Third, Rev. Stephen Donne, Oswestry. Commended—Messrs Baker, Half-moon Passage, Gracechurch Street.

DORKING (White).—First, Nathaniel Antill, Esq., Portsea, Hants. Second, Rev. G. F. Hodson, North Petherton, near Bridgwater. Third, Miss Golds, Cheam Hall, Surrey. **CHICKENS**.—First, William Manfield, jun., Esq., Dorchester. Second, William Symonds, jun., Esq., Milbourne St. Andrew, Blandford, Dorset. Third, George Horne, Esq., The Brewery, Egham, Surrey.

DORKING (Speckled, Blue, or Cuckoo).—First, The Rev. George Hustler, Appleton, Tadcaster. Second, George Botham, Esq., Wexham Court, Slough, Bucks. Third, Charles Elgar, Esq., Reigate. **CHICKENS**.—First, George Botham, Esq., Wexham Court, Slough. Second and Third, Charles Elgar, Esq., Reigate, Surrey.

FOR ANY OTHER VARIETY OF FOWL NOT COMPRISED IN THE FOUR-MENTIONED CLASSES.—First, Charles Coles, Esq., Fareham, Hants (Andalusians). First, W. B. Tegetmeier (Black Crested White Polands). First, Mr William Rogers, Woodbridge, Suffolk (Malay). Second, Mrs Charles Coleridge, Eton, Windsor (White Polands). Second, James Leighton, Esq., 143, High Street, Cheltenham (Malay). Second, W. B. Tegetmeier, Esq., Tottenham (Rumpless White Polands). Second, Messrs Baker, Beaufort Street, Chelsea (Black Cochins).

TURKEYS.—First, Mrs Henry Fookes, Whitechurch, Blandford, Dorset. Second, John R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Third, Rev. T. L. Fellowes, Beighton Rectory, Acle, Norfolk.

GESE.—First, Graham Lloyd, Esq., Manor House, Abbot's Leigh, Bristol. Second, Thomas Williams, Esq., 7, Broad Street, Reading. Third, William Manfield, jun., Esq., Dorchester. Commended—Mrs Henry Fookes, Whitechurch, Blandford, Dorset.

DUCKS (Aylesbury).—First and Third, John K. Fowler, Esq., Prebendal Farm, Aylesbury. Second, Rev. G. H. Richards, Broad Somerford, Chippenham, Wilts.

DUCKS (Rouen).—First, Rev. T. L. Fellowes, Beighton Rectory, Acle. Second, W. G. K. Breavington, Esq., Vicarage Farm, Hounslow. Third, The Right Hon. Lord de Blaquiere, Woodlands, Havant, Hants. Commended—John K. Fowler, Esq., Prebendal Farm, Aylesbury.

DUCKS (any other Variety).—First, Miss Steele Perkins, Sutton Colefield, near Birmingham (East Indian). Second, Mrs Herbert, Powick, near Worcester (Coloured Call).

PIGEONS.

ALMOND TUMBLERS.—First, John M. Eaton, Esq., Islington Green. Second, J. Percivall, Esq., Clent Villa, Harbourne, near Birmingham. Third, Edward A. Lingard, Esq., Birmingham.

CARRIERS.—First, E. L. Corker, Esq., 11, Queen Street, Cheapside. Second, James G. Yell, Esq., Duke Street, Chelmsford. Third, J. Percivall, Esq., Clent Villa, Harbourne, near Birmingham. Commended—C. W. Burningham, Esq., 142, Edgware Road (All very meritorious).

POUTERS.—First, James G. Yell, Esq., Duke Street, Chelmsford. Second, Edward A. Lingard, Esq., Birmingham. Third, Thomas Bridges, Esq., Croydon, Surrey.

MOTTLED TUMBLERS.—First, Jones Percivall, Esq., 13, Queen's Row, Walworth. Second, John M. Eaton, Esq., 7, Islington Green. Third, Edward A. Lingard, Esq., Birmingham.

BALDHEAD TUMBLERS.—First and Second, Matthew Wicking, Esq., Blackheath Park. Third, Harrison Weir, Esq., Lyndhurst Road, Peckham.

BEARD TUMBLERS.—Second, Harrison Weir, Esq., Lyndhurst Road, Peckham. Third, J. K. Bartrum, Esq., 6, Richmond Hill, Bath. (The Judges regret that the four pens, 8 to 11, were marked with the owner's name, being superior to the others).

BARBES.—First, George C. Adkins, Esq., Edgbaston, Birmingham. Second, Edward Maddeford, Esq., Staines, Middlesex. Third, Harrison Weir, Esq., Lyndhurst Road, Peckham.

JACOBINS.—First and Second, Harrison Weir, Esq., Lyndhurst Road, Peckham. Third, Edward Maddeford, Esq., Staines, Middlesex.

OWLS.—Second, Frank Bottom, Esq., Sherwood Hill, near Nottingham. Third, Harrison Weir, Esq., Lyndhurst Road, Peckham.

TURBITS.—First, James G. Yell, Esq., Duke Street, Chelmsford. Second and Third, Matthew Wicking, Esq., Blackheath Park. Commended—Harrison Weir, Esq., Lyndhurst Road, Peckham. (A good class).

NUNS.—First and Second, Thomas Twose, Esq., Bridgwater. Third, George C. Adkins, Esq., Edgbaston, Birmingham.

HELMETS.—Commended—Matthew Wicking, Esq., Blackheath Park. **SPOTS**.—First, Matthew Wicking, Esq., Blackheath Park. Second, Edward A. Lingard, Esq., Birmingham.

SWALLOWS.—Second, J. Percivall, Esq., Clent Villa, Harbourne, near Birmingham. Third, Messrs Baker, Beaufort Street, Chelsea.

MAGPIES.—First and Third, Matthew Wicking, Esq., Blackheath Park. Second, Jones Percivall, Esq., 13, Queen's Row, Walworth.

FANTAILS.—First, Matthew Wicking, Esq., Blackheath Park. Second, John E. Mapplebeck, Esq., Moseley Road, Birmingham. Third, John Marshall, Esq., Belmont, Taunton (An excellent class).

TRUMPETES.—First, Harrison Weir, Esq., Lyndhurst Road, Peckham. Second, Thomas Twose, Esq., Bridgwater. Third, Henry Gilbert, Esq., Upper Phillimore Place, Kensington.

ARCHANGELS.—First, George C. Adkins, Esq., Edgbaston, Birmingham. **DRAGONS**.—First, Edward R. Maddeford, Esq., Staines, Middlesex. Second, James G. Yell, Esq., Duke Street, Chelmsford.

ANTWERPS.—No entries. **RUNTS**.—First, Edward A. Lingard, Esq., Birmingham. Second, Charles R. Titterton, Esq., Snow Hill, Birmingham.

ANY OTHER VARIETY.—Commended—Frank Bottom, Esq., Sherwood Hill, near Nottingham (Half-moons). Henry Gilbert, Esq., Upper Phillimore Place, Kensington (Laughs). W. B. Tegetmeier, Esq., Tottenham (Victorias).

ALMOND TUMBLERS, CARRIERS, AND POUTERS.—The Silver Cup for the best three Pens of Almond Tumblers, Carriers, and Pouters, was awarded to Pen 7, Class 23, Edward A. Lingard, Esq., Birmingham.

FOUR PENS OF TOYS.—The Silver Cup for the best four Pens of any other varieties, except Tumblers, Carriers, and Pouters, was awarded to Pen 1, Class 24, Harrison Weir, Esq., Lyndhurst Road, Peckham (Barbes).

OUR LETTER BOX.

"SIR,—Will you oblige me by informing me whether this year's, or two-year-old, ducks will lay soonest in 1857? And also whether it would be injurious to them to be allowed to swim in a reservoir of warm water? And if you can recommend a book to me which treats upon ducks at length, as well as other varieties of poultry, you will confer an obligation upon—INQUIRER."

[In all poultry, young birds lay earlier in the season than old ones. Their first eggs are little to be depended upon. Warm water must be injurious to ducks, as it is entirely against nature. "The Poultry Book" treats at length on ducks.]

CORN CON (G. B.).—Burning such rubbish will have no influence. The editor of the print you speak of is no authority in poultry matters.

BIRMINGHAM SNOW (*Amicus Galli*).—The days for this Show, we believe, are fixed, and the Schedule of Prizes will be shortly issued. We must abide the time when the committee wish to have it published.

LONDON MARKETS.—AUGUST 4TH.

COVENT GARDEN.

The splendid weather of the past week has enabled the growers to get in and send to market large quantities of fruit in excellent condition; rarely, indeed, has it been equalled. All the soft, small-seeded varieties are still in active demand, and maintain last week's rates. A few Apples and Pears have made their appearance. Hothouse fruits receding. Now the London season is over we have again to notice large importations of West India Pines, quantities of which are utterly worthless.

POULTRY.

The demand for poultry gets less daily. The London season is drawing to a close. The great heat of the weather makes senders shy, and field occupations take precedence of poultry-feeding for a time in the country. Any change in price will now be a diminution.

Large Fowls 6s. 6d. to 7s. 0d. each.	Pigeons 9d. to 10d. each.
Smaller do 4s. 0d. to 5s. 0d. "	Quails . . . 2s. 3d. to 2s. 6d. "
Chickens . . 2s. 9d. to 3s. 3d. "	Leverets . . 4s. 0d. to 5s. 6d. "
Goslings 6s. to 6s. 6d. "	Rabbits . . . 1s. 5d. to 1s. 6d. "
Ducks 3s. 0d. to 3s. 6d. "	Wild Ditto . . 10d. to 1s. 0d. "

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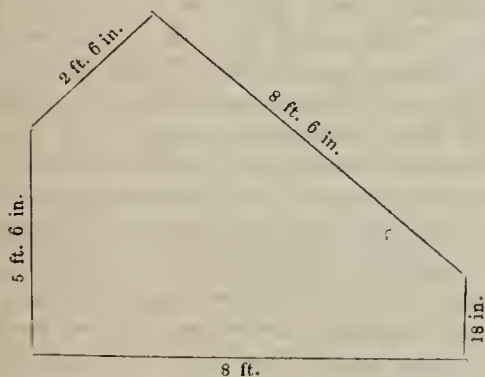
WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 12—18, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
12	Tu	Sphinx Celerio.	30.265—30.181	70—42	W.	.01	43 a 4	27 a 7	morn.	12	4 44	225
13	W	Sphinx Ligusiri.	30.223—30.213	72—41	N.	.00	44	25	0 14	13	4 34	226
14	Th	Macroglossa Stellatarum.	30.189—30.174	73—57	N.W.	—	46	23	1 27	14	4 23	227
15	F	Hepealus lepulinus.	30.231—30.224	76—47	N.	—	48	21	2 55	15	4 11	228
16	S	[Ds. KENT BORN, 1786.	30.297—30.274	79—45	N.W.	—	49	19	rises.	☉	3 59	229
17	SUN	13 SUNDAY AFTER TRINITY.	30.282—30.244	83—45	N.	—	51	17	8 a 11	17	3 46	230
18	M	Liparis dispar.	30.232—29.760	79—53	S.E.	—	52	15	8 25	18	3 33	231

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 73.1°, and 51.5°, respectively. The greatest heat, 92°, occurred on the 18th, in 1912; and the lowest cold, 32°, on the 13th, in 1839. During the period 113 days were fine, and on 83 rain fell.

In our last number we stated that we considered the true Orchard-house—a glazed structure without any artificial heat—the most useful glass-house that can be constructed for a family's service. Our opinion is not founded upon what we foresee can be obtained by the aid of such a house, but from a knowledge of what has actually been obtained.

The house we allude to is built against a west wall upon the rapid slope of a hill—the slope being to the south. The wall is only five feet six inches high, so that for head-room the roof had to be slightly hipped, in this mode.



There is a glazed door at each end; the ends and the entire roof are glazed with 24 ozs. glass; the rafters are rebated, and the glass, 10 inches by 8 inches, is puttied into the rebates. The rafters are ten inches apart, and fixed to a plate of wood in front and on the top of the wall.

The difficulty is to keep such a structure from being excessively hot during the mid-days of summer; and to prevent such excess of heat, there are shutters the whole length of the house, between the eighteen inch high oak posts in front. The panes of glass are fixed with a sixteenth of an inch space between the laps. There is an opening, one inch wide, on each side along the ridge of the roof; and there are five hinged windows, each two feet six inches long and ten inches wide, in the east side of the roof; yet with all these admissions for air, and the door open at each end, we have seen the thermometer at midday rise to 110° during bright sunshine.

The house is fifty feet long, and painted a very blue white inside, the excellent effect of which is at once apparent. The entire cost of erecting, glazing, and painting this house was £30.

Along the wall of this house are one tree of each of

the following fruits:—Pitmaston Orange Nectarine, Barrington Peach, Moorpark Apricot, Stanwick Nectarine, Royal George Peach, and Black Hamburgh Vine. This Vine was planted at the back, to ascertain whether training up the wall and down the glass, or up the glass and down the wall, is most conducive of fruitfulness; and to carry out the comparison, there are six Vines planted withinside in front, viz., a Chasselas Musquée, a Sweetwater, two Black Champions, and three Black Hamburghs. The pathway, extending from door to door, is the same width as the doors, two feet six inches; the border on the wall side being eighteen inches wide, and the border on the other side the path four feet wide. On the border next the wall a row of *Sangster's No. 1* Peas was sown on the 10th of January, and the crop was gathered and the border cleared away by the end of May. Thus the ripening of the wood was not at all interfered with; and the trees being planted only in the previous autumn, there was no bloom to be over-shadowed. Next January the Peas will be sown on the other border, and close to the path.

We have omitted to notice that sixteen fruit-trees, in 11-inch pots, are growing at intervals on each side the foot-path, and the row of Peas was grown in the intervals.

The fruit-trees in the pots are two Noblesse Peaches, six Moorpark Apricots, two Violette Hâtive Nectarines, two Royal George Peaches, two Pitmaston Orange Nectarines, one Early Anne Peach, and one Elruge Nectarine.

On the border nearest the glass, *Turnip Radish* seed, sown on the 12th of January, yielded a crop fit for use on the 1st of April.

Walnut-leaved Kidney Potatoes, planted on the 13th of February, yielded a crop fit for table in the second week in May.

A row of *Keen's Seedling* Strawberries, old stools, planted in the front border, bore a good crop in June; but the exact date is not recorded.

In addition to the foregoing products, an unlimited supply of *Mustard*, for salading, was kept up during the winter months; and 120 *Brown Cos* Lettuces hearted well, and were cleared off early in the spring from the front border.

It will be objected that it is bad gardening to crop the fruit borders, and this is admitted; but it is not such bad gardening but that judicious manuring can rectify to such an extent as to render the produce far

more than compensatory for any deficiency it occasions in the fruit crop. Whether it does occasion any, remains to be proved. At all events, the young wood at present is healthy, vigorous, and maturing well.

THE Annual Meeting of the BRITISH POMOLOGICAL SOCIETY was held at the Rooms, 20, Bedford Street, Covent Garden, on Monday, 4th inst.; Mr. Underhill, of Birmingham, in the chair.

The special objects of the Annual Meeting are to elect office-bearers for the ensuing year, to receive the Secretary's and Treasurer's reports, and for the usual business. From the Secretary's report it was found that the Society was in a very prosperous condition, the number of members now being over 120, and only one having withdrawn since the formation. From the Treasurer's reports it was also found to be in a highly satisfactory position. After paying all liabilities, there is a balance in hand of between £20 and £30, which, with subscriptions still due of over £30, make the funds sufficient for every purpose.

On the recommendation of a committee appointed at a previous meeting, the meeting took into consideration the alteration of the Rules, particularly No. XI, which states, that "the Society shall hold its ordinary meetings on the first Monday of every month," but which has been altered to "the first Thursday of August, September, October, November, December, February, and April." It was found that Monday is an inconvenient day for persons living in the country, who have to pack their fruit on Friday or Saturday, and which, before Monday, was not unfrequently injured. The "four extraordinary meetings" provided for by Rule XII. were abolished, and other meetings substituted, to be called "Special Meetings, to be held when deemed necessary for the purpose of exhibiting such fruits as may not be in season at the time of the ordinary meetings, and for other business." It was agreed that the charge of sixpence for the transactions to members should be discontinued, and that they be supplied *gratis*. Rules VII. and XV. were cancelled.

It was agreed that, in future, the proceedings of every meeting be printed, and a copy sent to every member of the Society as soon after such meeting as possible. This we consider an excellent step, as it will bring the members more immediately in contact with the central body, and keep up that interest and unity of feeling which is always desirable in such cases.

The meeting then proceeded to the election of office-bearers. In consequence of the death of William Stevens, Esq., of Reading, Mr. Hogg was elected Vice-President; and Mr. John E. Lane, of Berkhamstead, and J. Silver, Esq., of Kensington, were added to the Council. The office-bearers for the year are, therefore, as follows:—

PRESIDENT.
SIR JOSEPH PAXTON.

VICE-PRESIDENTS.
ROBERT HANBURY, Esq. | ROBERT HOGG, Esq.
H. BELLENDEN KER, Esq. | THOMAS INGRAM, Esq.

COUNCIL.

G. W. JOHNSON, Esq.	MR. THOMAS MOORE.
H. G. BOHN, Esq.	MR. HUGH LOW.
MR. THOMAS RIVERS.	MR. CHARLES TURNER.
MR. JOHN E. LANE.	MR. JOHN EDWARDS.
MR. JOHN LEE.	MR. J. POWELL.
MR. GEORGE M'EWEN.	J. SILVER, Esq.
MR. J. B. WHITING.	

TREASURER.

MR. THOMAS TAYLOR, Centre Row, Covent Garden.

SECRETARY.

MR. JOHN SPENCER, Bowood.

ASSISTANT SECRETARY.

MR. WILLIAM DAVIDSON.

The meeting then proceeded to the examination of several specimens of Fruits which were on the table. The first was Mr. Underhill's *Sir Harry* Strawberry; of which there have been so many conflicting accounts, and which, in consequence of having been packed in moss, when brought to the last meeting, was not in a fit state for trial. Those which were produced at this meeting, even at this late season (August 4th), though not quite so eminently large as at the last, were large and well-coloured, the colour of the ripest being almost black. The flavour was most excellent, piquant, and highly aromatic, with much of the flavour of the *Hautbois*. There cannot be a doubt that when *Sir Harry* is properly grown and well-ripened, it is a *very large, early, and highly-flavoured* Strawberry, and well worthy of being generally cultivated. Mr. Kitley, of Bath, sent specimens of his *Carolina superba*, which also, at this late season, preserves its exquisite flavour. Both of these are excellent varieties, and highly-flavoured, but quite distinct in flavour; *Carolina superba* having that of the *British Queen*, and *Sir Harry* more that of the *Hautbois*. A specimen plant of *Sir Harry*, from the open ground, was literally covered with fine large fruit; it is, certainly, a capital bearer, and its fruit well up.

Messrs. Stewart and Neilson, of Liscard, Cheshire, sent specimens of what they called a new late seedling Strawberry. It is of a conical shape and medium size, not highly coloured, and with a pleasant flavour; but it was not regarded as worthy of being introduced into cultivation.

Mr. Carpenter sent specimens of his *New Seedling Grape*, which is, certainly, a most distinct variety. It was raised from the *Black Hambro'* crossed with the *Royal Muscadine*. The berries are of good size, and oblate, or orange-shaped. The skin is white, with deep russety furrows over its surface, and shows its venations as some Gooseberries do, but it is thick, and adheres to the flesh. The stones are large, and are attached so firmly to the stalk as that they may be pulled out; the flesh is juicy and well-flavoured, but adheres too much both to the skin and the stones, so that when eaten it has a strong astringency in it. The meeting was of opinion that, though a very distinct variety and a well-flavoured Grape, still it was not equal to other white Grapes already in cultivation.

Mr. Rivers produced a bunch of a nice little black

Grape, with a Muscat flavour, called *Muscat de Sarbelle*. The berry is of good size, and the flavour very agreeable. It is said to ripen out of doors as well as the *Black Cluster*, and, under such circumstances, it cannot fail to prove a valuable acquisition.

POTATO CULTURE.

As the time approaches in which we should seeme good stock for the spring planting, I think a few remarks relative to this invaluable root may prove of service. Many a pen has been employed on them; many a tongue loud in their praise; nevertheless, the subject is by no means exhausted. Indeed, what subject in gardening can be? Who is there that will boldly affirm he has carried the culture of any one thing so far that it can never advance, but must remain stationary to the end of time? To me it is perfectly evident that our gracious Creator specially ordained it quite otherwise. Had such been the case, the world would soon have lost a great portion of its interest, and lethargy and indolence would speedily have paralysed the activity of man—that activity of head and hands for which he is obviously framed, and which, indeed, is indispensable to the well-being of society.

We are all now tolerably well acquainted with the past history of the Potato; the commencement and reign of the terrible disease by which they have been harassed is familiar to every one. It is, of course, well remembered, too, that remedial measures, or, indeed, curative ones, were suggested by the gross, and that, as to the latter, they all fell to the ground. Never had self-sufficiency a heavier blow. From the philosopher to the ordinary peasant, all shared alike,—all their plans fell to the ground. But there were those who, without pretending to give an off-hand recipe for its cure, advised remedial measures, based on the natural habits of the plants, and suggested that, in all probability, though their advice was followed, it would require two or three years more to recover lost ground. Who those were, the public has had an opportunity of knowing, and also of witnessing that their advice was sound, as proved by subsequent events. But I must come to the advice itself, which was, that, in order to commence a reform, or, shall we say, a renewal of the plant? we should take all possible care over the seed for the ensuing year, both as regards selection and preservation. Selection, of course, implies that the seed be pure as to kind; that it be obtained when in a proper condition as to ripeness, &c.; and, above all, that it be free from disease. The latter has, doubtless, already commenced in several parts of the country, and is to be watched with jealousy. There can be little doubt that unripe seed is by far preferable to ripe seed diseased. It is most important, if this be a fact, that it be well recognised. The only question that remains is, at what early stage of the Potato's growth we may depend on them for seed purposes.

The county I live in (Cheshire) is noted for Potatoes, and has been for many years; and they are really not very particular about the ripeness of their seed. When I first came here, nearly thirty years since, I was perfectly astonished to notice the unripe condition in which many of the farmers housed their seeds. Having myself been used to the gardening about the great metropolis, and to the practice of permitting the plant to become almost dead on the ground before the seed was removed, I had a complete prejudice against the Cheshire practice, and it took some time to remove it. After witnessing so much excellent success with seed that I had deemed unripe, I became convinced that my previous impressions had not been correct.

One of the principal standards of fitness for seed in

these parts is the ready parting of the Potato from the string which holds it. Now this, although involving a possibility of error, is by no means bad as an off-hand symptom. If the Potato parts from the connecting string with ease, and not through the mere preponderance of weight in the produce, I should hold it an almost decisive symptom of ripeness; but if any country clown, in forking out roots of heavy Potatoes, which tear themselves away by mere force of weight, thus thiinks them ripe, why, I can only say that he would be very much mistaken. My opinion is this: As soon as any kind of Potato becomes discoloured in the foliage, it ceases, in the main, to lengthen in the stem, and shows every symptom of the absorbent powers having ceased, or being about to do so, when it may at any time be removed for seed.

We all well know that it generally requires a little care to prevent early kinds of Potatoes from sprouting too soon. Early Potatoes in this part of England are so handled as to prevent, by all possible means, their sprouting before the desired time. So the question is, not who can sprout them first, but who can produce sound and well-hardened sprouts by the exact period at which it is expedient to commit them to the soil.

People differ as to this; one party being for autumn planting, others prefer very early spring planting; and the majority, as far as I have examined the matter—and that is not very lightly—do not make any fuss about the exact day or week, but rather direct their attention to the period at which it is expedient their stems should rise through the soil. Now, really, these things lie in a very narrow compass when common-sense is brought to bear on them.

Of what use is it so planting Potatoes that their stems must rise through the soil in the middle or end of April, when we must admit that, in at least four seasons out of six, we have frosts as late as from the beginning to the 10th of May—frosts sufficient to injure, if not destroy, the Potato? Now, we all know that the longer seed Potatoes of the earlier kinds are kept in the soil, the more they become inclined to sprout, as well they may, if any rains occur, seeing they are surrounded by the very conditions most essential to germination—heat and moisture. It is no uncommon thing to see the *Ash-leaf Kidney* sprouting rapidly before they are taken from the soil; indeed, this generally happens if the haulm be suffered to become nearly dead with ripeness. Here, then, is a source of mischief. Potatoes removed from the haulm in such a state are inclined to sprout long before the desired period; and the unfortunate possessor, not knowing what to do with them, is induced to plant them early, in order to get them out of mischief.

As it is quite probable that we shall have a pretty general visitation of the Potato disease before the season is over, let me advise the readers of THE COTTAGE GARDENER carefully to select seed of the necessary kinds before they be anyways diseased. There are various practices as to the preservation of early Potatoes for seed, and I may here be permitted to allude to them. Some persons put them in pits, or hogs as they are here termed, as soon as taken up; but this I hold to be a bad plan. There can be no question but that dryness is an indispensable condition towards their keeping; but how shall that be the case in an ordinary pit? The best practice I am acquainted with is to lay them, the moment they are taken up, in some open shed, stable, or outhouse, where the sun cannot shine on them, and where they are perfectly dry, the wind blowing on them if possible. Here they may lie for two or three weeks, or until they are slightly greened; and then I prefer putting them in baskets, or even tubs, and placing them in any dry upstairs room, where there is no fire, and where the air can circulate a little. Here they may remain until the end of October, or into November,

when I should prefer putting them in a pit or hog until nearly the middle of February, when they should be taken out, and introduced to any tolerably warm room, such as a room over a kitchen, or even a cow-house or stable. Here they may either be on the floor about two or three deep, or, what is better, placed ready for planting, in boxes or baskets, one deep, each having the nose or eye end upward.

This has of late been much the custom with the farmers in this neighbourhood, as to their very early Potatoes. They place them in boxes singly, and take the boxes just as they are into the field. The Potatoes have little sprouts about half an inch long, sturdy as an Oak-tree; and they thus are planted, with their first sprout uninjured.

R. ERRINGTON.

WELLINGTON ROAD NURSERY.

I HAD just discovered, in time to save my credit, that I could not go grouse shooting this season. I cannot even go "into the country" during the long vacation, unless I can get home the same day, or early on the morrow, and all through these experiments and Experimental Garden. Talk about the difficulty of detecting the fatal drug from the Bean-like seeds of *Strychnos nux-vomica* in the animal organs, why, I could detect it in a field-mouse, a polecat, a badger, and a colly dog, before I was of age; but whip me if I can detect a little caterpillar which eats off the pistil of certain kinds of plants after they are sweetened with the pollen of certain other plants, and yet that is the least difficulty of all my labours. Still, I have a good deal of time on my hands at certain periods of the day, and it struck me, as soon as the shooting fit was over, that I might do worse than call on those nurserymen who are near enough who contributed handsomely to the Experimental Garden, in order, in the first place, to thank them personally, and, in the second place, to see *their* ways of doing such things as would be good for our readers to know about.

The Wellington Nursery being the nearest of them, I called there first, and for the first time in my life. I took the bus from the "City" to the "Swiss Cottage." The route is by Newgate Street, Holborn, Oxford Street, turned to the right at Orchard Street, through Portman Square, and by the Baker Street Bazaar, crossed the New Road, got to Park Crescent, then to Park Road, out of which runs Wellington Road, and I was put down at the gate of the Nursery; but all that you have to do, in any part of London, is to look out for the Swiss Cottage on the bus, and tell them to put you down at the Wellington Road Nursery, if you want to see how correctly I have made this report on progress.

I have seen some wonders in my day, but they will never cease. The most wonderful thing I saw that day was the stock they had of their new bedding dwarf *Dahlia*, named *Crystal Palace*. Mr. Barnes, of Stowmarket, is the best propagator of the *Dahlia* I know, and I am sure that if he had that stock of this one plant, and three spring months before him, he could and would produce from it a sufficient number of plants to supply every garden between the Straits of Yenikale and the Bay of Agapuleo; and this *Dahlia* is not a florist's flower, as I can tell from the Experimental, but a bedding-plant. My plants are not fifteen inches high yet, but they were in bloom by the beginning of the month. THE COTTAGE GARDENER deserves, say, how many claps? for fighting against the "fancy" to get into the *Zelinda* strain, the French strain of *Pelargoniums*, and the right strains for bedding-plants. Out of one hundred and sixty-three kinds of bedding *Geraniums* now in the Experimental Garden, there are only four or five which would or could pass as florists' plants.

In the show-ground of this Nursery are arranged, in long beds, all the kinds of the best bedding-plants that will bear to be turned out into very rich soil. The ground seems to be one-half rotten dung, and, except the very dwarf *Scarlet* and *Variegated Geraniums*, none of the bedding *Geraniums* will do to be planted out of the pots in it. Those, therefore, who find any difficulty in growing the *Golden Chain*, have only to give it the richest light compost to push it on as freely as *Tom Thumb*, comparatively. There is an edging of it here all round one of these long nursery beds, which may be twenty yards from end to end, the very finest plants I ever saw of it, and I have seen as much of it as most people. The plants average a foot in diameter, and the leaves touch all round. This edging is round a bed of a new *Verbena*, the most singularly beautiful of all the race. It is a purple variety of *Verbena pulchella*, with the edges of the petals as distinctly marked with white stripes as the *Phlox Mayii*, or *Radetsky*. The bed is completely carpeted with this creeping, low *Verbena*, and every flower in it is marked alike: the name is *Impératrice Elizabeth*. There are pans full of it in the show-house grown after the manner of *Achimenes*, and in that way it will be a most valuable kind in the country for decorating the breakfast-tables, and for standing about the rooms. With a little stepping it may be grown for such purposes as if it were turned out of a mould. Down the centre of this bed is a row of standard and half-standard *Fuchsias*, the stems being clear from two to three feet. A circular bed in the flower-garden thus planted, the *Fuchsias* in the centre being longer in the legs, and the legs shortening as you advance to the sides, would look extremely well by itself; or, to make it more complete, though less rich, the edging might be of that little gem of a *Fuchsia* called *Tom Thumb*, say three rows of it, unless the plants were more than a year old. A large bed of the *Flower of the Day*, with an equal quantity of the *Variegated Mint*, the finest combination, and the most lady-like, that can be made of bedding-plants, with standard appropriate *Fuchsias*, and an edging a foot wide of the *Golden Chain*, would be my model for luxury embedded, if there is such a word; and if I live another year, the best bed in the Experimental will be of that ilk, if I could beg, borrow, or run off with one hundred good *Golden Chains*; but as every one here and abroad who grows the *Golden Chain* owes me a debt, who knows but I may have some of them to spare next year? Another of those long beds was edged with all the new kinds of *Variegated Geraniums*; and seeing them thus, all in one view, I should say that the *Mountain of Snow* and *Fairy Nymph* are the two most telling for their ivory-like whiteness, while *Favourite* (Ivery's) and *Brilliant* are the best two for masses of bright flowers. However, Mr. Kinghorn's new ones and a few others were not out on this competition. I have one of all the *Variegated Geraniums* that are "out," and a good few that are not "out;" but I want one thousand good cuttings, of sorts, to complete my hobby of seeing how comfortably we can put *Luxury* to bed between us. I should like to see him or her so soft and easy bedded, that you could see the marks of a lady's finger on the face for a week. There is a new *Variegated Geranium* here with a bright horse-shoe mark between cherry and crimson, and if it holds good, it will be the end of the tether in that direction.

Among the other fancy-leaved and coloured *Geraniums*, one called *Countess of Bective* is the best flower, which is in the way of *Kingsbury Pet*, but that class will not bed; they are house plants, autumn and late autumn conservatory kinds. I claim that strain as my heritage, the *Shrubland Cream* and *Tricolor* being the first of them, and the best two of them yet for trusses. *Aurora* is another of them, which I saw here, and *Mrs. Lawton* a third; and a beautiful cherry-cheek-like charmer it is.

Here I have another of them, a French one, called *Triomphe de Mont Rouge*, which, in addition to the creamy salmon, has a light border on the top of the petals. All these, and such as these, ought to be kept till they are as old as Noah was. Before they are three years old they are not fit to be seen, compared to what they will continue to increase in being for every year till we are all dead and gone; but they must have legs, one a-piece, if ever so short, and some to be standards, and all to be trained into perfect specimens, like my *Lady Caroline* and two *Lady Middletons*; my *Ossian*, a standard, named after my faithful little dog; my *Refulgens*, another standard; and my *Shot-silk*, a dwarf-made plant, but of strong growth. Yes, those who have not turned their thoughts in this direction will soon find they are out of the fashion. Every shade from white to dark crimson, and such as can be made out of different shades blended together, we must have, and that soon; also, every shape of flower which God in His infinite wisdom has given us to enjoy, as well as the *one-shape* flowers of some amongst ourselves. We shall please and prosper together. You can almost order a plant to be made to any size, or colour, or shape. A vast capital is afloat in the nursery trade on these very subjects. You and I may exclaim against this or that fashion; but depend upon it the best way is, to be contented and honest, and go with the stream. Both of us may make a crooked bend less crooked and more easy for the tide, and that is all that we are driving at just now; but we must have every conservatory in the country full of all conceivable coloured Geraniums, of all ages, shapes, and sizes, to fill up the places of Pelargoniums and other summer flowers; and if my experiments with the *Lady Middleton* Geraniums do succeed (and, as yet, I see no reason to falter), we shall have them, the Scarlet races, in bloom till bloom "comes again."

Among the best kinds of Scarlets for this kind of work I noticed the following in the Nursery under review, *not under report*. I abominate all bare reports of Shows, nurseries, and private gardens.

The best pot Scarlets that I saw here were *Lady Smythe*, a shaded flower between scarlet-rose and pink. The shades will improve as the plant gets old. All young plants of all the kinds, owing to so much having to go for bone and muscle, fail in giving the shades distinctly. *Defiance*, a large scarlet; indeed, the largest individual flower of all the Scarlets. *Oriflamme* (pronounce it *O-re-flamm*), a fine scarlet; but the leaf not good enough for a bed. In the dark days of autumn it is one of the brightest in-doors. *Rubens*, another shaded scarlet and pink, that must have age, strong, rich loam, and scant of water, and longer nights than days to bring out the shades properly. It is not a bad bedder also. The different varieties of Shrubland Scarlet, as *Amazon* and *Andry*, are too succulent for pot specimens in-doors. For beds and borders, *Glowworm* is an improvement on *Tom Thumb*, and is only strong enough to make an edging to it; but they should never be used together, as then you could not know the difference. *Indispensable* is the next turn to *Lilliputian* in size, a plain leaf, and there seems no end to its flowering. *Lady Downes*, *Emperor Napoleon*, and *Highland Chieftain* were the newest to me, all dwarfish and good; but having to learn all about the Scarlets from the Experimental, and from it only, I did not run after the real good scarlet bedders here. The *Diadematus*, *Quercifolius*, and *Uniques* took up more of my attention, and in the show-ground I found a most lovely seedling of my own raising as a bed and as an edging plant. The name is *Bridal Ring*, and whoever named it, or sold it to Messrs. Henderson, might have had the good taste to let the name of the raiser go with it. I challenge Europe to produce another "*Bridal Ring*" in three years from

this date. It cannot be done, and no one knows why but the writer himself. *Bridal Ring* is the most "lasting" plant of all the race at a certain age, and, like the *Golden Chain*, it is as pretty without the flowers as when in full bloom; the habit and hoary-like cast of the leaves being the chief beauty. It is the only one of all the Geraniums that will bear clipping into a hedge-like growth, and when the country gets full of it, as with the *Golden Chain*, that will be the best way to use it in terrace gardens. When very young it looks most delicate; but it is as easy to keep in winter as July. I had them both on the same shelf before any man or woman in London was aware of such a beautiful thing being in existence. They only charge 7s. 6d. for it, which is the severest "cut" of all to the raiser. It is really worth more than any Pelargonium; but I suppose thousands buy such plants for the tens who buy Pelargoniums, till they are down to one shilling a-piece.

All the country nurserymen tell me that Pelargoniums are a dead letter as compared with the French "*floppies*" and bedding kinds, and I am most glad to hear it, because I know that it is madness alone, and not money, that would attempt to monopolise public taste in the form of a flower, the cut of a dress, or the shape of a bonnet, and of all things which we have all of us in common.

CALCEOLARIAS.—One of the long beds is planted with all the best kinds of shrubby Calceolarias in five rows, the centre row being the *Wellington Hero*, a large golden-yellow flower, and one of the best for showiness. On one side of it is a row of the *Golden Chain* Calceolaria, and the outside row is of *Compactum*; on the other side of the centre, *Sulphurea splendens*, a very good yellow bedder, and said to be hardy in the south of England, being a cross from *Kellermani*, a hardy border kind. The outside row is of a new dwarf yellow, called *Ethel Newcome*, a very showy kind. I also noted the following in beds:—*Kentish Hero* and *Shankleyana*. These ought to be planted together in one bed, as the one helps the other, and both are of a peculiar cast. *Ajax* and *Admiration* ditto. I have an improvement on *Admiration* in the seedlings from near Birmingham; it is a brown-crimson front, and a yellow edge all round. *Magnificent*, brownish-crimson front, and a yellow hood. Some people call the top part of a Calceolaria a crown, or a cap, but hood is the proper botanical term for it; and two most curious crosses from the *Rugosa* section, after which they take in leaf and habit, but with marked flowers, as in the large, shrubby sorts. The names are *Little Dorrit* and *Shirley*. Poor *Little Dorrit* has a yellow hood, and a purplish-crimson front, shaded off into yellow on the edge—a very pretty little thing; and *Shirley* is a buff-orange, with a clear yellow hood. *General Canrobert*, purplish-crimson, and *Beauty of Montreal*, ditto, might also be put together in one bed, the latter to be outside the *General*. These were the best of all the new and old ones then in bloom.

VERBENAS.—One of my chief reasons for this and similar calls in the autumn is, to see with my own eyes which Verbenas would suit me best in the Experimental Garden; for to think of selecting them from cut flowers at a Show, you might just as well do what I shall not say, and what I hope I shall never do myself; but, as tastes differ, I shall not tie you down to my actual choice. The first I noted is the *Hon. Mrs. Lamb*, a plum colour and good habit; the colour is deeper than in *Helen*, my old favourite. *Madame Adolphe Weick*, a shot-silk Verbena at last, purple and crimson. Madame is a nurseryman's wife, who wears the what-do-you-call-them, and takes the best seedling to commemorate the fact. *Rose Rieant*, a bedder, with the colour of a Scarlet Geranium and a light eye, looked as if it would make a telling bed. *Ariosto* was then the best purple, but *André* kept much longer in bloom last year at Kew.

Madame de Valliere, a new cast of shot-silk, purple and lavender colour, in the way of *Parfum Madeline*, which it will supplant. *General Bosquet* and *Blue Bonnet* are the bluest, or nearest to blue. *John Edwards*, a good orange-scarlet, with a yellow eye. *La Stella*, dark orange-scarlet. *Imperialis*, another mulberry colour, and a dwarf grower; and *Viscountess Emlyn*, a white, of good habit, and a well-marked eye; and *Géant des Batailles*, the best dark scarlet bedder that has been had yet; it is as strong as Robinson's *Defiance*, but as close a grower as *Melindris major*. *Wonderful* is still the best plum-purple, with a white eye. I have not seen a whole bed of it yet. *Brilliant de Vase* (not *Vaise*), a fine orange-scarlet, with a white eye. All our florists are wrong in writing *Vaise* for *Vase*; there is not such a word as *Vaise* in the French language. It may be a slang word among fellows who bud Roses and lay Pinks without a shoe or stocking on, but "dress" at night for the theatre; but I must have a whole chapter some day on the corrections of the spelling of bedding-plants. A new world has opened before me in this Experimental Garden—more catalogues, more names, more confusion, and more dog-Latin than the old world has any conception of; and if I add that more time is needed for my review of the Wellington Road Nursery, you may expect nothing short of cream cheeses next week. D. BEATON.

STOVE AND GREENHOUSE PLANTS THAT MAY BE IN BLOOM IN JULY.

(Continued from page 328.)

ADESMIA USPALLATENSIS.—A twiggy, thorny, slender shrub from Chili, with fine, bright yellow, pea-like flowers, striped with red, with very singular hairy pods or seed-vessels. *Viscosa* has also yellow pea-blossoms, and beautiful pinnated Acacia-like leaves. *Loudonia*, which blooms earlier, has also pretty silky pinnate leaves, and all make nice little bushes for a cool greenhouse in summer. The base of a conservative wall, covered with glass, would just be the house for them, more especially if the enclosed place had a hot-water pipe, so as to keep out more than a few degrees of frost. Propagated easily by cuttings, and grown well in peat and loam. Worthy of being oftener seen.

ALOE.—Many of these little plants are exceedingly beautiful. They always look best when they have a small house, or part of a house, to themselves. They are peculiarly worthy the attention of amateurs who cannot give minute attention to their favourites. Given, a light, sandy, loamy soil, with a few pieces of brick-rubbish; freedom from frost in winter; almost complete dryness at that season; waterings given first moderately, and then copiously, as the days lengthen in spring and summer, and then gradually lessened in autumn, and withdrawn almost entirely in winter, with full exposure to sun in summer; and the interest they will create is certain.

ALONA.—Those mentioned, as well as *caelestis*, are some shrubby plants, with large blue, Nolana-like flowers, from Chili, and are well worth cultivation in peat and loam. Propagated by cuttings. Are likely to be useful in the flower-garden if fairly tried.

AMELLUS LYCHNITIS.—A neat South African little shrub, with purple, Aster-like flowers, and growing freely in sandy loam, and propagated by cuttings.

ANACAMPSEROS.—Most of the Houseleeks will propagate by the leaves alone, though you must wait longer for the plant than if striking a cutting. In either case, the base should be well dried before either the leaf or the shoot is inserted: treatment much the same as the *Aloe*.

ANOMATHECA CRUENTA.—This dwarf summer flowering

bulb is not grown at all in proportion to its merits. Propagated by division and by seeds. Seeds sown in a little heat in March will bloom the same summer if well done. Any light sandy soil suits it; and for window, greenhouse, and a neat little bed out-of-doors in July and August, it is alike suitable.

ANTHYLLIS HERMANNÆ.—A neat little shrub, rather spiny, with downy leaves, the pea-like little yellow blossoms being clustered at the end of the shoots; easily managed in peat and loam; the greenhouse kinds forming good neighbours to *Adesmia*.

ARCTOTIS and **ARCTOTHECA** are Aster-like herbaceous plants, with showy flowers, and requiring the protection of a pit in winter, or a cool greenhouse. Sandy loam will suit them.

ARTHROPODIUM.—A family of herbaceous Lilyworts, allied to the *Anthericum* section; requiring protection in winter, and growing freely in peat and loam; worthy of more attention than is generally given to them.

BABINGTONIA.—A pretty little shrub, with small pink flowers, allied to *Leptospermum*, and, like it, liking fibry peat and loam, and a cool greenhouse. *Bæckia* is a near neighbour, and requires similar treatment. *Barosma* and *Beaufortia*, so far as treatment is considered, may be called others of the same.

BERARDIA.—A twiggy, Heath-like shrub, from the Cape of Good Hope, and requiring less care, and treatment similar otherwise to a Heath, with the exception of using sandy loam for the chief part of the compost. *Berzelia* requires similar treatment.

BILLARDIERA is a genus of Australian and Van Diemen's Land plants, next-door neighbour to a *Sollya*, and requiring similar treatment. They are all climbers and twiners, producing small pendulous flowers in great profusion. The colour in *angustifolia* is dull cream; in *parvifolia*, blue; *longiflora*, crimson; *ovalis*, greenish-yellow; and *scandens*, bluish-purple. They do well on trellises, or round short columns; grow nicely in peat and loam, thoroughly drained; and are just the thing for a conservative wall covered by glass, and heated in severe weather in winter. I have had several of them stand out in mild seasons; but they are not at all to be depended on. I have had *Sollya heterophylla* on a wall for several years; but the frost masters them at length. *Sollya linearis* is the most showy for a pot in the greenhouse, if kept cool and sturdy; few things are more graceful and pretty.

BORBONIA.—These have chiefly yellow pea-blossomed flowers, and just require less care than *Hoveas*, *Scottias*, and *Templetonias*, namely, to be grown in open, sandy, peat and loam, well-drained, and with pieces of charcoal and broken pots mixed with the soil; to have plenty of air in winter when the outside temperature is 40°; to give top air chiefly when under that figure; and in dull weather promote circulation in the atmosphere by gentle fires during the day, even if they should not be wanted at night. Cuttings strike in silver sand under a bell-glass.

BRAVEA.—A pretty little thing, requiring treatment similar to an *Ixia*, which has repeatedly been given.

BRUGMANSIA OR **DATURA.**—I introduce this here to meet a complaint of large, healthy-like plants not flowering, though growing freely, and producing a forest of thick, stubby, short shoots. The profusion of the shoots is the cause. When I have kept plants in a shed, &c., free from frost in winter, and planted them out, they did little good as respects flowering, unless they were either freely pruned back, or the buds on the shoots were taken off, leaving only a shoot to come over six or eight inches. The young shoots of the current summer are what produce the bloom chiefly, and they will not bloom unless they are growing pretty freely. In such thick-clustered bushes, I have had them soon flowering freely, just by taking away some

half or three-fourths of the short, stubby shoots, and applying manure-waterings, whether the plants were in pots or in the open air.

CASSIA CORYMBOSA.—The treatment of this, as an outdoor plant in summer, has several times been given. It is now full of flowers, and much healthier than it is generally met with in a plant stove. Its large corymbs of rich orange blossoms are very attractive; and where there are children, it would be worth while to get them to notice how its pinnated leaves reverse and go to sleep in the evening, and turn again in the morning.

CALLISTACHIYS RETUSA.—This is the latest blooming of this group of New Holland, pea-shaped, yellow-flowered, neat greenhouse plants. The head will stand exposure to sun, but the pot should be protected; and hence it will thrive better in a cold pit than on the open stage of the greenhouse. See *Borbonia* above.

CHIRONIA.—A family of herbaceous, almost shrubby plants, which produce their beautiful flowers at the points of shoots of the current year's growth. The treatment as respects pruning and cutting is a sort of medium between an herbaceous perennial and a shrub. On this account, and also because the plant grows fast, and is easily injured by a close, retentive soil, it is advisable to raise plants from cuttings every season or so, as they will be about the best when three or four years old. Cuttings strike in sand, under a bell-glass. The compost should be fibry peat and loam, kept open with sand and pieces of crocks. An airy situation will be wanted in the greenhouse in winter. After June they will do best in an airy, cold pit.

CROTALARIA.—Those who manage *Hovea* and *Callistachys* will have no difficulty with this; the great drawback is Red Spider, and the remedies are, the free use of the syringe, and placing the plants in cold pits in summer. *Crocea saligna* has had a chapter to itself in a former volume.

DARWINIA AND DAVIESIA.—Two fine genera of pea-blossomed New Holland plants. The chief points in their culture are, open fibry peat and loam, the former preponderating, and kept open with sand and pieces of charcoal, or broken pots, from which the dust is excluded; an airy atmosphere, not much below 40° in winter; careful watering at that time; a free use of the syringe in spring; shelter to the pot in hot days in summer, by housing the plants in cold, or turf pits; and a free exposure of the top of the plant in the autumn months, and as open a place in the greenhouse as possible in winter.

FALKIA REPENS looks pretty when grown in a small suspended vase or basket. Peat should form a portion of the compost until the plant is well established.

GAZANIA RIGENS is a beautiful Starwort, with large yellow flowers, with a dark velvety centre; and, whether out-of-doors, or in a window, or a greenhouse, in summer, sure to attract attention, when the sun shines, by its brilliancy. It is struck freely by cuttings; grows in rich loam; is low and spreading in habit, seldom rising above eight inches; and merely wants to be kept from frost, and rather dry, in winter.

GNIDIA.—Neat plants of the *Daphne* group, when kept cool, and with plenty of air. If at all close and hot, the shoots become long and weak, and the interest in the plants is much weakened. Fibry peat and loam, and a cold pit in summer, suit it well.

GOMPHOLOBIUM, OXYLOBIUM, PLATYLOBIUM.—The chief points for keeping these beautiful pea-blossomed genera healthy are, very fibry, sweet, sandy peat, with a little fibry loam as the plants get older; always pre-supposing perfect drainage, and making the whole compost open, so as to drain itself, by mixing with it pieces of sandstone, charcoal, and broken pots. In making the compost, break the heath-soil and the loam into small pieces with the hand, and let the very dusty matter be rejected.

Such open compost must be squeezed pretty firmly in the pot; and, before repotting, make sure that the old ball is sufficiently moist, and just roughen the outside of the ball with a pointed stick, or, what is worth a hundred sticks, the sensitive points of the fingers, so that the roots may have free egress. Water with pure soft water; syringe over-head in the summer evenings. Give air in winter in the greenhouse freely, when the outside temperature is 45°; but sparingly if below that figure. Seldom allow the atmosphere to get below 40°, and water only when wanted. Syringe in the spring mornings, and by Midsommer get the plants into an airy, cold pit; or, if left in the greenhouse, secure the pots from the sun.

R. FISH.

(To be continued.)

ADVICE TO GARDENERS.

It is a well-known fact that this class of men, to which I am happy to say I belong, are, generally speaking, intelligent, moral, steady, thinking men, and in most cases highly valued and respected by their employers. Yet, though steady and most careful men, their wages are in too many cases only barely sufficient to enable them to bring up their families decently, and give them a very moderate education. The reason why their wages are, compared with the mere mechanic, so low is, that the market is overstocked. Hence, when a place is vacant, there are so many applications for it that the employer has, in a measure, the power of fixing the amount of salary he will give, and when a gardener has a family he is too often thankful to submit to a low salary. Hence he is, under such circumstances, unable to lay up any provision for sudden death, long illness, or old age, much less leave anything behind him for the support of his maybe numerous family. To a right-thinking man these circumstances are very depressing, and in too many sad cases lead a weak man to use stimulants to drown reflections on the future. The question will naturally occur to my brethren so unhappily placed, What can we do to provide against the many ills "that flesh is heir to?" It is all very well to say to us, Trust in Providence. The country squire said so to his gardener, whose wife was confined of her seventh child, adding, "The Almighty never sends mouths but He sends food for them." "Yes," replied the honest man, "it may be so; but He sends all the mouths to my house, and the food He sends to the Hall." No; Providence helps them that help themselves. Let my brethren, then, practise a little self-denial in their younger days, and make a provision against the sometimes heavy but, doubtless, wise dispensations of Providence, and I can assure them by so doing they will insure a contented mind in health, and a great consolation on a sick bed or at the hour of death. I have stated that the greater part of gardeners cannot do this in the ordinary way of laying by a portion of their wages to meet so many contingencies, more especially if they have any children. The way, then, that I advise them to attain such happy results is by *Insurance*. There are, as everybody knows, many Insurance Companies now established in Great Britain, and their operations have, to my certain knowledge, saved many a family from destruction. A very eloquent writer on the subject of Life Assurance says:—

"It is only the fortunate few, compared with the mass of the people, who possess any capital save their labour, and the comforts and advantages it produces may in a moment be impaired or taken away altogether. It is no uncommon thing to hear that a man in the upper as well as in the lower ranks of life has left a wife and family without a farthing—left them to chance—to live or perish anywhere; that wife and family, be it recollected, having hitherto lived in comfort and comparative

affluence. Indeed, it is a well-known fact that four-fifths of the community who commence the world with good prospects die in insolvent circumstances, leaving nothing for their families but a never-ending legacy of distress and sorrow. Every day's sad experience shows how unreasonable it is for us to depend entirely upon ourselves and upon a continuance of life. It therefore becomes the imperative duty, the religious duty, of every parent to avail himself of the advantages held out by Life Assurance, and thus to secure a provision for the future maintenance of his family, should any unforeseen accident deprive them of their natural protector. Life Assurance has claims upon us all. The benefits that have resulted from its adoption are now acknowledged by every educated and prudent person, and its means of assurance against the accidents and contingencies of life should be constantly borne in mind. If the annals of Life Assurance Companies were searched there would be found records of happiness conferred, and misery alleviated, exceeding even those of the charitable and benevolent institutions which are our country's boast, and far more interesting, because resulting entirely from the self-denial and forethought of our fellow-labourers."

This is rather a long quotation, but it is so much to the point that I could not find in my heart to curtail it. Some parts of it do not apply to gardeners generally, but the main part does, namely, the duty of providing, by a little self-denial, for their families, should sickness and death overtake the head. Give me leave, my brothers of the knife and the spade, to remind you that

LIFE ASSURANCE IS INDISPENSABLE—

1. To husbands and fathers, to make provision against death for wives and children.
2. To parents, to provide for endowments for children, to apprentice or start them in life.
3. To partners in firms, who, by assuring their joint lives, can secure a sum payable at the death of the first, to enable the survivor to pay off the capital of the deceased partner to his family.
4. To borrowers, to provide for the repayment of a loan in case of death.
5. To possessors of life incomes, to make provision for the younger members of their families.
6. To members of Building Societies, to secure the payment on mortgages, also to continue the share contributions in case of the parent's death.
7. To professional men, merchants, railway officials, commercial travellers, to nurserymen and gardeners, and to all who may desire to maintain the social position of their families.

In order to make this system of assurance more plain, I will give a few instances how a gardener may insure.

For the yearly sum of £1 14s. 10d. a man aged twenty-five may insure £100 at death.

For the yearly sum of £3 1s. 4d. a man and his wife, each aged twenty-five, may insure £100, to be paid to the wife if the husband should die first, or to the husband if the wife should die first.

For the yearly sum of £2 11s. 5d. a man aged twenty-five may insure £100, to be paid on his arriving at sixty years of age, or immediately if death should take place before attaining that age.

For the yearly sum of £2 6s. 10d. a man aged thirty may insure £10 a year, to be paid to his wife (of the same age) for life after his death.

For the yearly sum of £3 8s. 2d. a parent may insure £100 to his child one year old, to be paid on the child attaining the age of twenty-one; the whole of the monies paid being returned if the child should die in the meantime.

For the yearly sum of £1 17s. 4d. a man of twenty-five may secure a pension of £10 a year for life, to commence at the age of fifty-five.

These are a few of the advantages that a person, by self-denial, may secure by insuring in a respectable office. I do not preach a doctrine or give advice that I do not practise myself. I have insured my life, and find so much comfort in the idea that by so doing I have provided something for my family, that I earnestly advise all my brother gardeners that have not already insured their lives to lose no time in doing so.

Any further information on the subject I shall be most happy to give; and I invite correspondents to write to me at 32, Church Street, Sheffield, who may wish to know how to go about this important and imperative duty.

I would just give a few remarks, in addition, on the meaning of the two terms Insurance and Assurance. A man who gives a proposal to a company, and is accepted, is an Insurer. The company who accept his proposal, and grant a policy thereon, are Assurers.

T. APPELEY

SOWING CABBAGE AND OTHER SEEDS.

"COMMON as a Cabbage" is a bye word which might be interpreted as casting a slur on this useful vegetable, which is, nevertheless, perhaps the most useful one we have, especially of late years, when Potatoes have been scarce and precarious; but it is only of late that people have learned the utility of obtaining a "knowledge of common things," and amongst the rest Cabbages have not been neglected; in fact, a good, useful variety of Cabbage has been too important to be lost sight of by the many consumers of this popular article; and the skill of cultivators has done much to improve it in certain points, which makes it more useful than before; and though now and then an adverse season will spoil or destroy the best arrangements, still we are certainly improving in the Cabbage way; and as the season has arrived for sowing the principal crop, a few remarks on that may not be out of place.

In the first instance, supposing the position to be the south of England, and the situation an ordinary one, the best time for sowing for the general spring crop is from the 5th to the 12th of August. A few days later will make no particular difference where local causes render it necessary to be so; but a few for early use may be sown sooner, and though the latter may partly run to seed in the spring, it is not always they do so, and very often turn out a useful crop. But be careful to sow only the best kind that resists the tendency they have to run to seed in March; for though there are many which are supposed to contain that good qualification, it is few that possess it to the full extent required, so that some nicety is wanted to just sow it in time to form good, useful hearts in spring, instead of running to seed then. In a general way, the varieties best adapted for that are small varieties with wrinkled leaves, not very transparent. The old *Emperor* might be regarded as the parent, but there is an innumerable offspring, all more or less good; and if it carry any information with it, I may add that I sow the *Eastham* and *Downhouse* varieties for early use, and one called the *Matchless*, in addition to these, for after-crop. The *Downhouse*, I think, has but a local celebrity, but the *Eastham* has been long in the trade.

In dry, hot weather I cover the beds after sowing with Pea-stakes, and sometimes a thin scatter of Pea-haulm is thrown over them, which shades the fierce rays of sunshine, and the seeds quickly germinate, and require little further care until planting time, which ought to take place early, if the plants are standing thick on the bed and the season spending. In a general way, Cabbage seed is good, and may be sown moderately thin on good, sound ground that has been dug a week or two. In hot weather the beds may be watered, but it is rarely

necessary to do so after the plants are up, taking care to cease on a dull or moist day. It is hardly necessary to observe that the shading may also be removed by degrees, and that it is also best done in dull weather; but do not by any means allow it to remain on long, even if the weather be hot and dry, as it will be attended with a drawn-up, sickly growth.

At this time there are also other seeds which want sowing, as *Lettuce*, *Endive*, large breadths of *Turnip*, *Winter Onion*, and the like, the conditions of all being the same; and though it is inexpedient to cover a large breadth of Turnip in the way described, still a something may be done at times; and sowing in dull weather is useful, while, at the same time, where the fly or other enemies attack them, a plentiful sprinkling with soot, lime, or wood-ashes, or all these united, will tend to check this pest, which to the whole Brassica family is a sad scourge. Other particulars the same as described in several letters of late.

J. ROBSON

NOTES FROM PARIS.

Of the lists of *ROSES* sent to M. Karr three only contained the following:—

Menoux, bright red; *Moiré* (Tea), yellowish-flesh colour, raised in 1810 by M. Moiré, of Angers; *Princess Adelaide* (Tea), sulphur-yellow, deeper at the centre; *Safrano* (Tea), yellow; *Souvenir d'un Ami*, delicate rose; *Antheros* (Tea), white centre, yellowish-flesh colour, raised by M. Lepage, of Angers; *Madame Bréon* (Bengale), rose, raised by M. Verdier in 1841; *Comte de Paris* (hybrid), rosy-violet, sometimes striated; *Pactole*, white, yellow at the centre; *Comice de Seine et Marne*, violet-red; *Reine des Iles Bourbon*, yellowish-flesh colour; *Baronne Prevost*, bright violet red, raised from seed by M. Desprez, of Yèvres, in 1842; *Henri Lecoq*, bright rose, shaded with carmine; *Belle Américaine*, clear red; *Cornet*, delicate rose; *Duchesse de Galliera*, shaded rose, raised by M. Portemer, of Gentilly; *Général Cavaignac*, rich, deep rose; *Noëmi*, clear rose; *Robin Hood*, rose; *Sydonie*, rose; *Marquise Boccella*, rosy-white; *Madame Pepin*, delicate rose, raised from seed by M. Verdier, in 1848; *Comte Bobrinski*, rich, deep carmine; *Etendard de Marengo*, bright crimson; *Jeanne d'Arc*, white, centre pale rose, raised from seed by M. Verdier in 1848; *Général Negrier*, rose; *Louis Bonaparte*, rosy-carmine, raised from seed in 1840 or 1842 by M. Laffay, and dedicated to Louis Bonaparte, King of Holland, brother of the first Emperor; *Madame Trudeau*, deep rose; *Comte de Rambuteau*, clear violet-red; *Prosperine*, bright crimson, raised by M. Monderville, near Mennecy; *Georges Uwier*, cherry colour, bordered with clear rose, raised by M. Souchet; *Mistress Elliot*,* rose, raised by M. Laffay; *Docteur Marx*, purple, raised by M. Laffay; *Rivers*, rose, raised by M. Laffay in 1840, and no doubt named in honour of Mr. Rivers, of Sawbridgeworth; *Noisette Desprez*, yellow, raised by M. Desprez, of Yèvres; *Ophir*, copper colour; *Césarine Souchet*, clear rose, raised by M. Souchet in 1846; *Henry Clay*, deep rosy-lilac, named in honour of the famed American statesman; *Clemence Seringe*, flesh colour; *Dumont de Courset*, shaded crimson and carmine, raised by M. Souchet; *Melanie Villermoz*, white, shaded with salmon colour; *Madame Hardy*, white, raised by M. Hardy; *Rosine Margottin*, clear rose, spotted with lilac; *Unique Panachée*, white, streaked with rose; *Cert Feuilles des Peintres*, rose; *Pompon de Bourgogne*, very small, rose; *Génie de Châteaubriand*, amaranth, carmine, shaded with violet, raised by M. Oudin, of Lisieux; *Mousseuse Ordinaire*, rose.

Those mentioned in the following list obtained only two votes:—

Guillaume le Conquérant, rose, raised by M. Ogier in 1847; *Comte de Paris* (Tea), clear rose. As may be seen, this differs much from the *Comte de Paris* given in the preceding list. *Prince Charles*, bright cherry-red; *Niphotos* (Tea), pure white; *La Victoriense*, white, slightly flesh coloured; *Docteur Roques*, violet-red; *Hermosa*, bright flesh colour;

Marbre d'Enghien (Pimpernel), pale yellow, streaked with red, raised by M. Parmentier; *Céline Dubos*, flesh colour, turning pure white; *Cétillet Parfait*, red, striated with white; *Jacquinet*, rose bordered, and shaded with white; *Tricolore de Flandre* (Provence), ground white, striated with lilac; *Mercédès* (Provence), ground white, shaded with rosy-lilac, raised by M. Vibert in 1847; *Smithii* (Tea), white, centre yellow; *Melanie Cornu*, bright violet-red, raised by M. Cornu, of Versailles, in 1840; *Prince Eugène* (Bengale), purple-crimson; *Soleil d'Austerlitz*, brilliant red; *Julie Mauçais*, white; *Madame Frémion*, bright cherry colour; *Louise Peronay*, deep rose, shaded with carmine; *Lauré Ramond*, very delicate rose; *Beranger*, rosy-carmine; *Pie IX.*, crimson-red; *Banks de la Chine*,† white, with large flowers; *Eliza Sauvage* (Tea), pale yellow, raised by M. Mieliez, of Esquermes-lez-Lille, in 1818; *Reine des Fleurs*, rosy-lilac; *Maréchal Bugeaud* (Tea), white, shaded with salmon colour; *Marie de Beaux*, white, centre copper colour; *Oscar Leclerc*, violet-red, raised by M. Verdier in 1846; *Madame Hallez de Claparède*, bright carmine; *Madame Nérard*, delicate flesh colour; *Pompon Cramoisi*, bright crimson; *Adèle Mauze*, rose, with singular foliage, raised by M. Vibert in 1847; *Général Changarnier*, violet-purple, centre slate colour; *Madame Lamoricière*, bright rose, transparent; *Bouquet de Flore*, red; *Deuil du Duc d'Orleans*, velvety-purple; *Camée*, pale rose, deeper at the centre; *Caroline de Sausal*, clear flesh colour; *Comtesse d'Egmont*, deep lilac; *Madame Guillot*, rose; *Espérance* (Provence), yellowish-white; *Mousseuse Blanche* (White Moss); *Zoé* (Crimson Moss); *Félicité Parmentier*, flesh colour; *Prince de Galles* (Prince of Wales), cherry colour; *Boule de Neige* (Provence), white; *Eliza Mercœur* (Tea), deep red; *Banks à Fleurs Jaunes*,† small yellow flowers in panicles; *Banks à Fleurs Blanches*,† very small white flowers in panicles, with the fragrance of Violets.

Besides these, M. Karr names, on his own account, several others, as the Provence Rose, streaked with white, having the smell of Violets, and which is called in Normandy *la Paysanne Rose Laureucana* (Bengale), which are loaded with flowers all the year. To these and several others he adds the *Sweet Brier*.

What a long and interesting chapter on history or biography might be written from the names which a Rose catalogue suggests! At least half of those in the preceding lists have been prominently connected with the leading events of the last ten years. M. Karr observes that he is not sure about the orthography of *Brier*, which he writes *Bryer*, and which, I think, is sometimes written *Briar*. I should be glad if any of your readers who have good memories could turn to passages in which the word occurs, and give one or two short extracts, with the correct title and page of the book. This little name has been associated with one of the greatest men of modern times, as all who have read the *Memorial of St. Helena* are aware. It is also to be found in one of the sweetest of Scottish songs:—

"There grows a bonnie Briar bush in our kail yaird."

We have dry, warm weather at present, although there have been one or two heavy showers in the immediate vicinity of Paris; but in elevated situations rain is much wanted. All round Paris the crops of Wheat, Barley, Oats, and other cereals are now nearly all cut. The Wheat crop in particular is very heavy this year. So far as I have seen, Potatoes are as yet untainted, and I have passed over a considerable extent of ground lately. All of whom I have asked information on this point assure me that not only is there no probability of blight, but that the crop will be unusually heavy, and the quality good. There has been a decided failure in Apples and Pears. Plums will not be very plentiful; but there is a good supply of Apricots, Figs, Currants, Gooseberries, and Raspberries. Where I have been the Vines appear healthy, and the crop a great deal heavier than last year. I have been informed by a private gentleman, who has a large *Vignoble*, that young Vines require from three to four years before yielding a pretty good crop; and Vine-growers here are well enough satisfied with such slow progress, making the best they can with the intermediate ground in the meantime.

This being the time for Hollyhocks, I may just remark

* I preserve the orthography of French writers, who find it difficult to understand our abbreviations, Mr. and Mrs.

† No doubt the "Banks" which I have marked signifies *Banksian*.

that the gardens round the Louvre are at present in great splendour with these stately flowers, which, it would seem, are very popular amongst the people here. The gardens of the *Palais Royal* and the *Tuileries* are also decked out in the same effective manner. This is a great improvement on the sickly Lilac-bushes with which it has been so long the fashion to fill the gardens of Paris. Nor is there anything among the cut-and-dry specimens of Versailles half so pretty and agreeable as the charming little pleasure-ground of St. Jacques, with its neatly-trimmed lawn, its clumps of luxuriant evergreens, and its delicious beds and borders of Roses, Pelargoniums, Stocks, Nemophilas, Petunias, and other good bedding-plants.

Gardening here seems to run more and more after English models; and it is said that the improvement is due to the Emperor himself, whose long sojourn in England has given him the best title to be a judge in such matters.—P. F. KEIR.

POTATO-TOPS.

EARLY Dwarf Frame, or short-bladed varieties of Potatoes are generally spared from the prevailing direful disease, if, after the blight sets in, it is dry and hot sunny weather, as it is at the present date, scorching or starving the fungus, or contaminated sap in the leaves and stalks; and such Potatoes, we think we may venture to say, are safest left to chance.

It is, however, too well known to need any further comment, that our practice is to *cut off* (not pull up) the Potato-stalks when luxuriant crops are attacked with blight, in order to bleed, as it were, the roots, and to save the tubers from further decay. To pull them up is to kill the plants, it is true; but it is to kill them instantaneously, shutting in the disease, subjecting the tubers to decay, and rendering them unfit for human food. As some persons are averse to this practice, and as it stops the growth of the tubers, we will not press it any further, and only remind our readers, that whether they have recourse to it or not, the blight itself in strong crops stops all further progress of growth in the roots, and it all amounts to the same result at last, except that decomposition takes place very often in the tubers when left to chance, whereas, if phlebotomy were resorted to, or the roots were tapped, by cutting off the stalks, such would not be the case, and the tubers, though small, would be more mealy, unless such decomposition had really taken place before the operation had been performed.

THE VALUE OF THE TOP, however, we have taken into consideration this season. Off one rod of a luxuriant crop, it will be found that one cwt., at least, of tops might be cut, or eight tons per acre (we have weighed some), for pigs or cattle; if not to be eaten, may be trodden into a very rich manure, which, if taken into account, with the chance of a full crop of Savoy, or Cabbages, or Mangolds, or Swedes, to be transplanted, and watered between the rows as soon as the haulm is removed from the Potato roots, or Turnips, which may be sown, renders it of no material loss, even if the Potatoes at Michaelmas should prove to be small; for let it be recollected, they will be only small, and small they must be, if left to chance, after they are blighted, when they may and will be decayed, without the chance offered for Savoy, Cabbages, &c., being secured, except for late ones, which would be of but little use or value. By forking up the Potatoes at Michaelmas, it cultivates the land, and prepares it well for the next crop; and if a slight dressing of guano or horse-droppings is applied before forking up the Potatoes, the green crops thus advancing to maturity will be very much improved, if not the crops next season, and but little if any loss sustained, even if the Potato crop were entirely lost.—HARDY AND SON, *Seed Growers, Maldon, Essex.*

P.S.—Twenty ears of our best selected and improved prolific red Wheat growing with Potatoes, with one foot of stalk to each ear, will weigh ten ounces, and if cut off at the upper joint of the straw, will weigh three-quarters of a pound, which, if compared with the weight of twenty ordinary ears of any district, will convey to our readers a pretty correct idea what our "thin seeding" will do with judicious management by others who have more capital than ourselves.—A. H.

CEANOTHUS VERRUCOSUS.

RAISED from seeds collected by Hartweg in California, and received at the Garden, June 5th, 1848, as "a shrub eight feet high, growing on the Santa Cruz mountains."

This proves to be a hardy evergreen of the best kind. It forms already a large bush, and will probably become a tree with long, stiff, rod-like, downy branches, covered in winter with multitudes of large oblong or roundish brown buds. The leaves are opposite, roundish oblong, either slightly notched or entire at the end, scarcely an inch long at the largest, flat, deep green, shining, with grey hairy pits distributed over all the under surface. Occasionally, when the plant is young, they are coarsely toothed, as is represented in the *Botanical Magazine*; but that is an exceptional state: the usual condition is what is shown in the annexed cut. At the base of each leaf is a pair of stipules, which



[*Ceanothus verrucosus*.]

gradually lose their thin extremities and change into soft fleshy conical prickles. The flowers are very pale blue, produced in great abundance in dense corymbs at the end of very short, stiff, lateral branches.

This shrub is among the most easy of plants to grow, and seems indifferent to climate or soil. It is increased by cuttings of the half-ripened wood, placed in sand under a hand-glass in a north aspect about the end of August. It is, however, best propagated by layering in the autumn. It flowers in June.

It may be added, that with the single exception of *C. cuneatus*, a white-flowered species of little beauty, all the Cali-

fornian *Ceanothuses* prove to be hardy near London. It is only requisite that they should not be placed in soil which keeps them growing till late in the year, but that their wood should be well ripened. In the *Botanical Magazine*, Sir Wm. Hooker, in speaking of *C. rigidus*, observes that—"The North-west American *Ceanothuses* are particularly deserving of cultivation in the open ground; but it may require a Devonshire climate to bring them to the state in which they are at Bishopstowe, as just announced to me in a

letter, dated 27th May, 1852, of the Bishop of Exeter. 'The *Ceanothus divaricatus* is now in its highest beauty: the largest plant is eighteen feet high, eighteen feet wide, twelve feet deep (i.e. from back to front), covered with thousands of the beautiful thyrsoid flowers, so that the leaves are hardly visible. *C. rigidus* blossomed about six weeks ago; *C. dentatus* is now in full flower; *C. papillosus* is just coming into flower; *C. azureus* will not blossom before August.'—(*Hort. Soc. Journal*.)

A NOTE ON THE PROTECTION OF FRUIT-TREES AGAINST WALLS.

By R. THOMPSON.

WITH reference to the protection of Fruit-trees, it may be of utility to state the means employed in the late unusually severe weather, and the results.

In March the nights were generally frosty; the wind during twenty-four days came from the north-east or east, dry and cold, so that vegetation was fortunately much retarded. In April, the wind still continued to blow from cold quarters, and the dryness of the air increased so that there was not sufficient vapour to form clouds to prevent the escape of heat by radiation; and the consequence was, that on the nights of the 19th and 20th of April, the thermometer indicated, respectively, 12° and 11° below freezing. According to the register kept at the Garden, this was lower than had been registered for twenty-six years so late in April; and it appears from Howard's "Climate of London," that so low a temperature has not occurred so late in the season within the last fifty years.

Peaches and Nectarines were in full blossom at the time. In the end of March, coping-boards were placed along the wall, and also a net over half of it, and straw screens were placed against the trees on the other half at nights. But previous to the severe nights above-mentioned, the net was removed, and straw screens, deemed better protection, were substituted. These screens consisted of one length of the straw fixed on twine stretched between inch-square six feet

were on the sides of the shoots, and leaning close against the face of the bricks, derived as much heat from the latter as kept them alive. On the whole a fair crop has been saved.

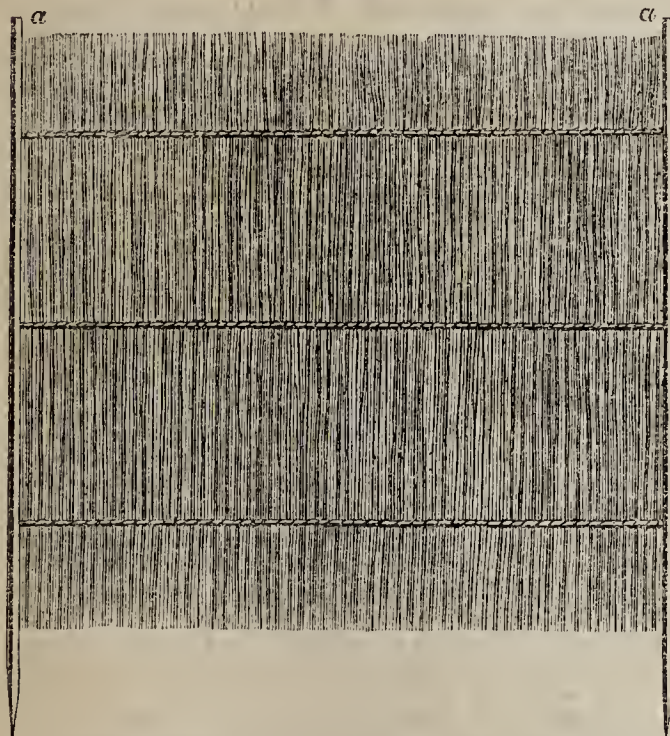
On the Pear walls the blossom was abundant and mostly expanded. Coping-boards were procured for a considerable portion of the walls that were originally furnished with brackets. In addition to the coping-boards a net was suspended in front of the trees on the east aspect; and elsewhere straw screens were made to project from the top of the wall. Under these the fruit on the upper branches near the straw were saved, but those towards the bottoms of some of the trees were much injured. With few exceptions, however, the crop of Pears on walls will be good.

A glazed Peach-frame was covered with mats; but, notwithstanding this precaution, the blossoms were in great measure cut off.

The iron and glass protecting frame by Messrs. Cottam and Hallen was not completed when the severe frost was experienced. The foliage under it is at present (June 1) very healthy, and does not appear checked like that exposed to the cold nights in the end of May.

From what has been observed, the facts are ascertained that a thin straw screen will protect Peach-trees in blossom from the effects of twelve degrees of frost; that coping-boards will be sufficient for about four degrees; that a common net (not woollen), aided by coping boards, was insufficient compared with straw screens; that sashes, in a nearly horizontal position, covered with a mat, but with a three-inch opening at the back of the frame, and a perforated zinc plate in front, were likewise insufficient, the Peaches suffering as much or more than those on the open wall with coping only.

Straw having proved so efficient, probably owing to its being hollow, and, confining in its interior a quantity of air, a slow conductor of heat, it seems desirable that it should be manufactured so as to preserve, in great measure, its tubular form, and have a neat appearance.—(*Hort. Society's Journal*.)



long training-rods. The screen was kept stretched by placing the tops of the rods *a a* against nails in the wall, whilst the lower pointed ends were in the ground. During the day the screens were rolled up and laid at the bottom of the wall. So far as these extended, the blossoms were sufficiently protected; but all blossoms on the fronts of the shoots above them were destroyed. Some, however, that

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY.—"Unquestionably to the beneficial influence of the Manchester and Liverpool Agricultural Society the agriculture of that part of the country is very largely indebted for the vast improvements already effected in the art, and for the great progress which is evidently taking place at the present time. But the farmers themselves are the parties to whose skill and enterprise these decided improvements are mainly due. The management and productiveness of many farms in this locality, though they may be equalled, are certainly not much surpassed by any in the kingdom." So wrote we two years ago on another subject; and as the same remarks are applicable to Cheshire "and all such other parts as are within thirty-five miles (in a direct line) of Warrington, that town being nearly in the centre of the district" of the Manchester and Liverpool Agricultural Society, we have quoted the passage here as bearing directly upon the subject, and being

suitably prefatory to a short notice we now purpose giving of the position and proceedings of that society at the present time.

We allude more particularly to the annual show of live stock, implements, poultry, &c., and trial of reaping machines and other implements, which this year took place at Wigan, on Wednesday and Thursday, the 6th and 7th of August. The prizes were very numerous, and open to all, and the Judges were this year empowered to award not less than £700. A considerable portion of that sum consisted of special prizes offered by a local committee at Wigan, who have praiseworthy exerted themselves on behalf of the Society, and who have been liberally assisted with handsome donations by the inhabitants and landowners of that town and neighbourhood. Among the special prizes "open to the united kingdom" were four of £25 each for bulls and horses, large prizes for pigs, 13 silver cups for poultry, and, besides, many prizes for implements of different kinds; there was one for the "best collection," and another of £15 for the reaping machine "which, on trial (on the 6th of August), was considered the best."

We had great pleasure in witnessing the trial of implements—the manifestation of their merits, and demonstration of their defects. For our own part, we believe that the progress of agriculture depends greatly upon the extended use and improvement of machinery, and upon exhibitions of this kind. The one we are speaking of took place on a field belonging to the Earl of Crawford and Balcarres, the use of which was kindly afforded for the occasion.

The show yard was not less than five acres of a large plot of grass land, called the "Moshes," close to the town, and contiguous to the railway station. Several of the principal railway companies in the district consented to convey live stock, implements, &c., free of charge from the show, if carriage was paid to it. The usual dinner took place in the Public Hall, on the day of show, at five o'clock p.m., under the presidency of Colonel the Hon. James Lindsay, one of the members for Wigan.—(*Liverpool Mercury*.)

MELON CULTURE AND FAILURE.

NOTWITHSTANDING that Melons have been grown in England for a great many years, it is not the less true that failures in trying to produce them are as common now as at the end of the last century. One thing may be said, that more fruit is now grown than formerly, and attempts are made, and often successful, too, with means more imperfect than would have been thought of then; still, the fact cannot be blinked that failures often do take place even when adequate means are at hand. So many contingencies all bearing that way, and so simple an act of neglect often destroying all that care and skill has accomplished, a failure in Melons is not by any means an uncommon event even amongst those who have had much experience; and a case which, no doubt, has many parallels, has been handed to me, which I cannot do better than give in the words of the writer, as they are expressive enough of what is the matter.

Our correspondent says, "I planted fourteen Melons in April last in a pit built on purpose for them, with top and bottom heat from hot-water pipes; the soil was carefully selected, and the plants grew vigorously. In a short time the Red Spider attacked the leaves, and my gardener syringed the pipes with brimstone and water. He, however, did not give air early enough, and the whole of the leaves, or nearly so, were scorched by the sun. This was to be expected; but in due time the Melon plants throw out fresh leaves, and are now showing good, healthy-looking fruit in great abundance;

but they all turn yellow a few days after setting, and only two have yet swelled off. Now, I want to know whether this failure can be caused by the original disaster? or whether there is any other way of accounting for it? The bottom-heat is steady, at about 80°, and the top-heat varies from that upwards with the sun. I am the more anxious to have this matter settled, as it is my first experiment in growing Melons in this manner."

Now, this is a case far from uncommon, and deserves every attention; and although it will be impossible now to obtain that healthy crop of fruit which might have been expected at the commencement of the season, still, it is possible something may be done. But to the case. Our correspondent says, that the pipes were syringed with brimstone and water to kill the Red Spider, and that air was not given early enough next day. Alas! the Melon is a plant of so delicate a nature as to be unable to withstand the attack of anything in the shape of insects or disease without being very much injured, if not completely killed. Being an annual plant from a tropical region, where its successful culture is performed under a cloudless sun, and in the early part of its growth accompanied with much moisture, there is reason to suppose that towards the ripening of its fruit Red Spider may attack it, but not so early as to prevent the proper maturing of the fruit. Now, this is very often the case with us. Red Spider appears when the fruit is ripening, very often in hot, dry weather, when, for other reasons, it is not prudent to water the plants, and the consequence is, that the latest ones are, perhaps, not so good as they ought to be. But our correspondent's plants were attacked with it before the fruit showed itself; and though he says that air was not given early enough after the severe remedy had been applied, I am far from thinking that was the sole cause. After an attack of Red Spider, the leaves so injured are no longer of any use; and supposing there had been a dull day or two before the sulphuring operation, and a bright, sunny one the day after, it is likely the results he complains of would have happened even if air had been given very early, the delicate constitution of the plant being ill able to endure such a misfortune and its antidote; for I may here observe, that the aim of all Melon growers ought to be to keep all insects and disease away, rather than trust to their skill in curing them; and to accomplish that, they ought not to introduce anything into the Melon-pit that is at all likely to infect the legitimate occupants of the place, which very little sometimes will do. A pot of cuttings of some plant which it is desirable to increase is sometimes the cause, and, in other cases, want of care in allowing cold draughts to succeed a hot, parched atmosphere. Some growers are not sufficiently careful in doing the necessary work of earthing-up, stopping and training the vines, &c., at the most suitable time, and in the most expeditious way, and the consequence is, that the plants get a chill, and insects, or disease, soon follow, and the results complained of above arrest the future progress of the plants. On the other hand, a lack of heat, or a superabundance of it, will accomplish the same thing, the conditions being the same. A departure from the proper course, which practice has confirmed, this plant is unable to endure, as very sudden changes, as well as a too high or too low temperature, are all alike death to the Melon. But as our correspondent says that his plants grew again and showed fruit, which drop after setting, we may follow his case out. Although a very lucid description is given of the case, it is difficult to understand all without being on the spot. Most likely the plants were cut back after the Red Spider misfortune, leaving, however, some of the healthiest of the foliage, and a week after growth took place, the leaves smaller than before; then, in order to keep down the insect, which, probably, yet lurks in the

old leaves, water is frequently applied, and a rank, close growth of small vine encumbers the bed or trellis on which they grow. This is generally the case, and the lack of fruit increases the growing powers of the plant. The only way to cure this evil is to thin the shoots very much the first dull, warm day, or, if the weather be settled, warm, and sunny, let it be done some afternoon; and if the leaves of those remaining have not regained the proper position by morning, let them be shaded a while. Besides thinning the shoots, stop those that are left, by nipping their ends off with the finger and thumb, and for a day or two abstain from watering them, and the probabilities are, that a sufficient quantity will be set for a crop, after which syringe and water as required, and after a good crop has once set and begun swelling, the plants do not produce so much small spray; but every care must be taken by the cultivator to secure the health of the large leaves of the main Vines, which can only be done by keeping insects away, and not by attempts at curing it when attacked, as in this case, even more than in others, "prevention is better than cure."

In pits or houses heated by hot-water there is a much better chance of preventing Red Spider making way than in the old-fashioned dung-bed, where the Vine lies on the soil; for in the latter case there is some difficulty in wetting the under-side of the leaves, which can easily be done when the plants are trained on a trellis, under which the syringe can play. At the same time, let it be fully observed, that without the use of such trellis, and with the plants spreading over the soil of the bed, there is more danger from Red Spider in a hot-water-heated structure than in one of fermented materials, as the atmosphere is more arid, and, consequently, more favourable to the production of this fruit. If our correspondent's pit be of the latter description, let him try and alter it before another season, and the chances are that he will be successful.

In settled, bright, sunny weather Melons make rapid progress either one way or the other; if incurable disease have attacked them, they are speedily rendered useless; if, on the other hand, they are healthy and fruitful, the fruit swell off and ripen in good condition; in fact, dry, hot weather is kill or cure to the Melon. Soil is also of much importance; and the best for that purpose is certainly not such as the plant-grower would like for potting purposes; and it is not unlikely that our correspondent has fallen into error on this head. In a general way, a stiff soil, and rather lumpy, is best for Melons, such a one, for instance, as would grow good Wheat or Beans, a strong, sound, loamy soil, not poor by previous over-cropping, neither gross by enriching manures. But I have tried Melons with a fair share of success in extreme soils, as an almost impenetrable clay, or light, sandy loam; but, of course, extremes are rarely successful, the best being a medium, but rather approaching to stillness. In this, the plant is not so likely to run to useless vine, and more likely to bear fruit than a rank, gross-habited one.

Much more might be added on Melon culture, but as the season is now so far advanced it is unnecessary to say more, except that the amateur who has gathered one crop from healthy plants growing in a hot-water-heated pit may have another crop by partially cutting the plants back, and attending to them again as before. The process of setting is easily accomplished this time; the only difficulty is to keep insects and disease at bay. Other conditions being favourable, a second crop of Melons is often as good as the first, and some have talked of a third; but in this latter case it is more like a succession of fruits than distinct crops; and though we now and then see Melons bearing in succession, it is not always so, and it is seldom that they do well, the first fruits starving the succeeding ones.

For my part, I like to see all that it is prudent for one plant to bear set and start off together like race-horses, and the result is generally a crop of fine, useful fruit.

J. ROBSON.

ECONOMICAL COLD PITS.

A good while ago I recollect one of our worthy instructors, in describing a visit he had paid to a friend, mentioned a cheap contrivance in the way of cold pits, made with turf, and covered with calico. Now, these cold pits I had made up my mind about some time before I saw the above paper. I knew I could make them myself at very little cost; but about the covering I was in a "fix." Frames made for glass would cost more than I could venture to suggest, to say nothing about the glass itself; and strained calico I had tried on a small scale over boxes, and sometimes I would think it might answer; then, again, I fancied the plants did not thrive, and it would not do. Neither did it do over boxes that were not over air-tight; and in the month of April, annuals just pricked out *did* look chilled. But when I read the above account, on the faith of its author I put aside all doubt on the matter; and my only thought was what length and breadth I should have. Then, to lay aside every bit of stuff that was likely to be useful, I had the plan all drawn out—not on paper—in my eye; then got all the materials I thought would be necessary, and at hand, before I began it, as I do not like the plan of doing a bit to-day, then a bit to-morrow, and so on for weeks (as many people would say), as I have time, because I knew the thing would become distasteful to the Doctor before he could see what I was about. Therefore I had my posts all up and ready for the covers before the Doctor saw them or knew anything about them, and free from any expense except the labour. The size, as under, inside measure, twelve feet and five feet; two feet ten inches in depth at the back; two feet in front; ten inches below the surface, which I dug out first. I then drove in Spruce piles at the four corners, and, as I intended to make three compartments, I put four more strong ones for the sash-pieces to rest upon. My turves being at hand, I began laying them down on the outside, level with the ground outside. And as I began the ends and front first, during which a thought came across my mind that, in wet and damp weather, the grass in front would make it unpleasant to lean against while attending to the plants inside; and having a few laths by me, I nailed them to the piles, and plastered them with a mixture of clay and cow-dung, which answers very well. I nailed a strip of half-inch board, three inches wide, for the sashes to rest upon, and let it just lap over the turf, to carry off the rain, and I find it keeps the inside dry. I also nailed some laths to the inside of the piles at the back; then filled up the space with fine coal-ashes worked in hard with a stick, which makes this part from six to seven inches thick, and as soon as I get them empty I shall serve the ends and front the same, or, what is better, some slates up on end, and filled up with ashes; then with a good coat at the bottom, I hope to be able to keep them pretty free from slugs and worms.

Having proceeded thus far, I had to come to the pocket; therefore, I had to bring the matter before the Doctor, or, as the fact was, bring the Doctor before the pits, for the means to make a finish of them, which was readily granted. The sashes are of clean pine; the sides two inches, the ends two inches and three quarters, one inch and a quarter thick, with a strip up the middle of each an inch wide. I had them a little longer than the pits to carry the rain off. The calico is a kind of twilled, and is tacked just on the edges of the sash, for this reason. In the winter I cover them with thatched hurdles, made to size, one for each pit. Now, in putting these hurdles off or on, one would run a great risk of tearing the calico; therefore, to prevent that, I reverse the calico covers, which leaves a space between them and the hurdles the thickness of the frames, and they will slide up or down without injuring the calico, so that light and air can be given, without taking the hurdles off, if needed.

Now, with the aid of these pits I have kept such a stock of old plants and cuttings during the past winter, that it would have been madness to have attempted without them. On the night of the 21st of December last we had

here 23° frost, and that night I only had a single mat in addition to the calico coverings. Certainly, the frost got in, but did not materially injure anything except a few *Cinerarias*. I had one division full of Scarlet Geranium cuttings in pots, except a few I stuck in without, just for an experiment, and as they have done very well, and the plan has been favourably spoken of in *THE COTTAGE GARDENER*, I shall adopt it this season, and save that number of pots for use in the spring.

But it is not for winter storing alone that these pits are useful; for, as soon as the weather would allow, I cleared out No. 1 of all the hardier things, and the old roots that were kept for forcing for cuttings. I then put in about eighteen inches of well-worked dung, with six inches of mould on the top. I then sowed my annuals in the impression made with the rim of a flower-pot, with a stick in the centre with the name of each sort; which, in addition to its utility, looks orderly and systematic; and by the time the plants were fit to prick out, No. 2 was ready to receive them. They have done exceedingly well with a very small amount of trouble.

As most of your readers know, about this time a good many of the perennials are going and gone out of bloom: the flower-stalks must be cleared away, a good many of the old roots cleared off altogether, and the vacancies must be filled up with something, and in these pits is the very place to grow the plants to fill up the vacancies. I have had, and still have, them as full of plants in pots plunged to the rim as ever I could cram them. As they increase in size they diminish in numbers. I find Balsams in 10-inch pots plunged up to the rim, and something over, with a good sprinkling of fowls' dung on the top for the watering to wash in, have become such plants that, from my previous experience, I could not have credited, and, most probably, had it not been for *THE COTTAGE GARDENER*, I should have remained in happy ignorance of. Besides, see how convenient these pits are, when all the plants are put out, to plunge the various plants in that require hardening or ripening. Whilst the sun strikes down on their tops the roots are as cool as their neighbours, the Cucumbers. When that is over, the dung, from the frequent waterings, is in good condition for any purpose it may be required, and the pits are ready to receive their winter tenants. Here can be made a slight hotbed to plunge anything at taking-up time, and that will bring them above the level of the ground, as I keep them all, winter and summer, as near the level as I can to the top of the frame.

Now, sir, from the economy of these pits, who would be without them, particularly as any man with a spark of ingenuity about him could put up any length or breadth he may require at a cost not worth naming? But the time and trouble they would save him would be worth naming a good many times, as can be vouched for by—*THE DOCTOR'S BOY*.

[The plants you enclosed are—1. *Buddleia globosa*; 2. *Cistus ladaniferus*; 3. *Agrostemma coronaria*.—ED. C. G.]

BARLEY-SUGAR FOR BEES.—WEAK QUEENS.

In answer to "P. B.," we cannot give any advice on making barley-sugar for bees "so as not to candy." Probably, however, the effect arose from using too much sugar. Mr. Payne was a practical apiarian, and his receipts are good. But barley-sugar, or any other sweet substances, are not fit for bees unless they are fluid; for though bees have strong mandibles, they do not eat hard food like wasps, but suck with their proboscis. When hard sugar is offered them they only sip it as it gradually melts by heat and moisture.

Are you sure you did not lose the first swarm? for, according to the rules of swarming, the old queen was dead, or left the hive eight or nine days previous to the first one noticed on the 22nd, otherwise there could not have been two young queens in the other attempt to swarm next day, for she would have destroyed them, and even the brood in the queen's cells; therefore your first swarm was led off by a young queen, a very unusual thing, and, of course, was like a second. Destroying one young queen would not prevent the other from again attempting to lead off a swarm, especially as none had left the hive while there were rivals in

the cells. The swarm "all right" on the 27th corresponds with the time a third would have left if the stock had swarmed in the usual way. The weakness of your hive now cannot be owing to a weak young queen, for the time is too short, but, most probably, to the loss of the old queen, which might have happened some time previously to that mentioned; if so, there would not be a sufficient number of eggs deposited for the brood to fill up the places of old bees dying off. In any case, if the bees were right, the glass hive could not affect them at this season; but, as they are weak, it would be best to remove it, and place the hive in its former position.—J. WIGTON.

NOTES FROM TASMANIA AND AUSTRALIA.

PRUNES.—The common hedge Plum of this colony, which is, we believe, usually allowed to go to waste, makes an excellent Prune. It is similar in appearance and flavour to the fruit imported and sold in the grocers' shops. We do not suppose the fruit will ever be preserved in quantities to be worthy of note as an article of export, yet it may be worth consideration to preserve them for home consumption. The reader, generally, is probably not aware of the Prune being ranked among the articles of the *materia medica*. Most of those sold in England are imported, and are supplied from Brignole, in Pruvine. A superior sort is supplied from Tours, which is from the large damask violet Plum; the little damask white Plum and the Damsons are also dried to make Prunes. All these fruits possess the same general qualities with the other summer fruits. They are nearly inodorous, and contain chiefly mucous saccharine matter and malic acid. They are used as mild refrigerants in fevers and other hot indispositions, and are sometimes kept in the month for alleviating thirst in hydrophobic cases. They are emollient, lubricative, and laxative, and are taken by themselves for gently operating internally in costive habits, and where there is a tendency to inflammation. Decoctions of them afford a useful basis for laxative or purging mixtures, and the pulp in substance for electuaries.—(*Cornwall Chronicle*.)

A MAMMOTH OF THE VEGETABLE WORLD.—The largest, and perhaps, therefore, the oldest tree in the world, of which I am conversant, is an *Eucalyptus*, or Gum-tree, standing near the foot of Mount Wellington, near Hobart Town, in Tasmania. Its diameter is full thirty feet, but its height cannot be distinctly ascertained, as its entire head and branches are above the rest of the forest, and the Government will not allow the surrounding trees to be felled, for fear of any injurious consequence to the vegetable monster. I think, however, that I am well within the mark when I allow 250 feet for the height.—(*Dr. Layard*.)

This *Eucalyptus* stands on the estate of George Hull, Esq., J.P., of Tolosa, and has been visited by the late Governor and his Lady, General and Miss Wynyard, Capt. Erskine, R.N., Captains Stanley and Clarke, R.E., and several other gentlemen, in whose presence the measurements were made. It is eighty-four feet in circumference at the base, giving a diameter of about twenty-eight feet. A fire has burned a room in it ten feet by nine, and about twelve feet high, in which fifteen people might easily sit down. At some little expense, the proprietor has cut a bridle track to its base, and any person can see it by taking a most pleasurable ride of about six miles. Captain Stanley estimated its height at 330 feet. A hurricane has, however, broken off a large portion of the top branches of the tree. In shape, the tree is very like the Eddystone lighthouse—large at the base, and gradually tapering upwards to the first branch, which is supposed to be 200 feet from the ground. The Government parted with the proprietorship of it to the present owner, by a grant deed, in 1820, for 2,560 acres of land, for his services as an officer in the celebrated Peninsular war of 1810-15. It is estimated that this tree, if cut down and sawn into planks, would realise, at 15s. a hundred feet, £325.—(*Hobart Town Mercury*.)

SYDNEY HORTICULTURAL IMPROVEMENT SOCIETY.—The ninth monthly meeting of this very thriving Society was held at the Royal Hotel, April 1st, David Shepherd in the chair.

Mr. Milne, botanist of H.M.S. *Herald*, read a very

interesting paper on the *Bread Fruit*, suggesting its cultivation in the northern districts of the colony.

Mr. Joseph Graham read a paper on the winter cultivation of the *Cucumber*, and recommended the subject particularly to amateurs.

The Secretary next read a very interesting paper on *Dahlias*, from Mr. G. A. Bell, of Strathallan, North Shore, the paper being accompanied by a series of specimens, showing the gradual improvement of this popular flower, from the original single flower to its present state of perfection, being from 1817 to 1825, 1829 to 1835, and to 1856. Mr. Bell recommends the *Dahlia* to be raised extensively from seed, and he has no doubt but that numbers of the very finest varieties will easily be obtained. Mr. Bell also stated that he has now in his garden 2,400 seedling *Dahlias*.

Mr. Milne then read a paper on the *Tacca*, or native Arrow-root, of the South Sea Islands.

Mr. S. C. Shepherd drew the attention of the meeting to a beautiful specimen plant of the *Hoya Australis*, which was richly covered with white perfumed flowers, recommending its cultivation.—(*Sydney Morning Herald*.)

QUERIES AND ANSWERS.

GARDENING.

ROOF OF VINERY, AND HEATING IT.

"H. M. is converting a building into a Vinery—aspect due south; and wishes to know:—

"Firstly, Whether a lean-to roof, or a span having the back rafter from 4 feet to 4 feet 6 inches long, would be the best? and, if the latter, whether he could have two rows of Vines, *i.e.*, one in front, to train up the roof, and one against the back wall and short roof? Also, if a lean-to, whether the width of house (which he has not fixed, and which he would like to be named) would be sufficient border, without an outside one; also, the width of outside border, if with two rows?

"Secondly, Whether pipes passing under the vaulting would be sufficient for bottom-heat, or whether they should pass through an open tank?

"Thirdly, What would be the best glass for the roof?"

[It will make little difference whether you have a lean-to roof alone, or a back-hipped one to join the front light, so far as benefit to the Grapes are considered, as they will have chiefly to depend on the south light. The hipped roof will cost a little more; but you will not need to have the roof so high at the back to enclose the same width.

You may have the borders inside with propriety, if drainage is duly attended to. The having plants against the back wall, and trained down, will depend upon the Vines up the front glass—4 to 6 feet apart. If they are thick, the Vines at the back will be too much shaded. We have seen good Vines grown in a 3 or 4 feet wide border; and we do not know how wide yours is proposed to be. We do not understand what you mean by pipes under the vaulting; but any pipes below the border will be in favour of the Vines, if they do not heat the ground too much, or make the soil around them too dry.

Hartley's Patent will be the best glass for the roof, all things considered.]

LINUM GRANDIFLORUM AS A GREENHOUSE PLANT.

"Your correspondents seem to have experienced some difficulty with it, at which I am surprised, as with me nothing seems easier of cultivation. I have a row of it now looking as strong and healthy as can be, some of the flowers measuring one inch and three quarters across. I had it last year splendidly in flower, and it seeded plentifully. My plants are now as strong as need be, and are throwing out branches in all directions, and I hope to get a nice harvest of seed. It appears to me to be a splendid greenhouse winter plant, as it flowered last autumn, and kept on growing until past Christmas. I left it out to try whether it would stand the winter, but it did not. I think it would in dry rockwork, as I have some fine plants this season. I shall try greenhouse culture during the winter with it. My plants now are planted out fully exposed, and when the sun shines nothing can be richer or more lovely crimson.

I enclose a piece of a stalk to show you the health, and a flower to show you the size.

"Have you *Collinsia bicolor alba*? not *C. Bartsiafolia alba*, which the London trade sent out last spring as *C. bicolor alba*. I do not exactly know which to give the palm to, they are both so beautiful, well-managed, for white bordering for ribbons. *C. Bartsiafolia alba* looks well, but must be sown twice or thrice during the season, and transplanted.—J. SCOTT, Merriott Nurseries, Crewekerne."

[Mr. Scott's *Linum* flowers were much larger than any we had seen before, and were it not that they were attached to the shoot, we should not believe that sloop belonged to *Linum grandiflorum* at all, it was so much stronger and the leaves larger than is usual. We think his kind may be an improved sort in the second or third season of cultivation. *Eucardium concinnum* turned to *grandiflorum*, and we think this is another such case. After Mr. Scott serves his own customers with it, Mr. Beaton would like two or three seeds for the Experimental. He is particularly thankful for the seeds of the white *Collinsia*: the spikes of flowers came quite fresh, and pleased him much.]

TO CORRESPONDENTS.

EARLY RHUBARB—GOOSEBERRIES (P. T. F.).—The earliest Rhubarbs are *Mitchell's Prince Albert* and *Myatt's Linnaeus*, both equal in earliness; but *Linnaeus* is of a deeper red colour than the other. We do not know of any variety of Rhubarb which has the Apple flavour; but there is the now rare and much-sought-after old *Gooseberry*, which has the flavour of green Gooseberries. There are no two Gooseberries for puddings better than *Warrington* and *Crown Bob*; and for the table, *Pilnaston Green Gage*, *Keen's Seedling*, *Golden Lion*, and *Ironmonger* will suit you.

FLOWER-GARDEN PLAN (S. B. G. T.).—The *Lobelia* 15 is not *Ramosides*, but a lighter kind—probably *Orulata*. There was a *Hemimeris* flower in the letter. The planting of the beds is not satisfactory. The plan, in reference to the house, is very difficult to plant well. 7 and 10 ought to be the tallest plants, and the strongest colours, as yellow and scarlet. If 10 was *Compactum*, 9 *Shrubland Rose*, 7 as it is, and 8 a good white *Pelonia*, it would be nearest to what could be made of four beds in a line standing "across the eye." The centre figure is well planted; but is it managed as well? That is a difficult matter. Each kind ought to be kept quite separate all round. The two outside beds next the house do very well; but 14 and 15, light pink and light blue, are decidedly bad. Remove 6, 6, 6, to 14 and 15, and repeat 11 where the sixes are; and if you can get a handful of the Variegated Mint to mix with 6, 6, 6, you will make a rich foreground view, and a key to the rest.

PEAT (*An Old Subscriber, Oxfordshire*).—We do not think it is peat. Why, it would require grinding, it is so rocky.

GARDEN (*One who derives much, &c.*).—We will give you a full reply next week. The Tea Rose, *Louise de Savoie*, is a greenhouse variety, and would do in your Vinery.

MONSTER CAULIFLOWER (L.).—If it has five large heads on one stem it is very unusual.

CRICKETS.—A Cottager inquires if crickets are destructive to linen, and how they may be destroyed? We shall be obliged by information.

COVERS FOR OUR VOLUMES—CLASSIFICATION OF STRAWBERRIES. (*T. Specklesen*).—No bookseller ought to charge more than one shilling for each volume's cover. The only works which have been written on the classification of the Strawberry are *Duchesse Histoire Naturelle des Fraisières*, Paris, 1766, and Mr. Barnett's paper on the subject in the Horticultural Society's Transactions, vol. vi.

NAMES OF PLANTS (*E. Radford*).—*Tetragonotobus purpureus*, or Winged Pea; not eatable. (*B. Virian*).—One of your plants is *Erica tetralix*, the Cross-leaved Heath; and the other called *Erica vulgaris*, now called *Calluna vulgaris*, or Common Ling. These two plants will flourish just as well in the garden as in their wild state if planted in a peat soil, and the plants taken up with good balls of earth with them in November next.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

BRIDLINGTON. August 27th. Sec. Mr. T. Cape, Bridlington.
DORCHESTER. Sept. 17th and 18th. Sec., G. J. Andrews, Esq., Dorchester. Entries close Sept. 1st.
ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs. G. E. Attwood, and W. A. Warwick.
GLOUCESTERSHIRE. Nov. 26th and 27th. Sec., E. Trinder, Esq., Cirencester. Entries close Nov. 1st.
LEOMINSTER. Thursday, October 16.
NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.
NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. Sec., John Spencer, Nottingham.
N.B.—Secretaries will oblige us by sending early copies of their lists.

ANERLEY POULTRY SHOW.

HAVING, at the request of the Committee, at the eleventh hour, undertaken the charge of the poultry, &c., during the late Anerley Show, I feel called upon to make a few remarks

on the account published in the last COTTAGE GARDENER. I will reply to the paragraphs that call for answer in the order in which they are placed.

Firstly, it is stated that no protest would be received against the awards of the Judges unless one guinea were paid at the time of making it. In answer to this it is only requisite to state that the protests were received without *any payment whatever*, and it was only mentioned to the secretary, that in case of a *perfect stranger* making a protest, he should be asked to *deposit* a guinea as a guarantee of his good faith, which sum was to be afterwards returned.

With regard to the withholding of the Brahma Cup and the first prizes, the opinion of the Judges that there was not a pen of birds exhibited that in *present condition and character* were worthy of a Cup, was acquiesced in by all breeders of the variety that I inquired of, saying, of course, the protestors. It was amusing to a looker-on to see that three of the exhibitors claimed for their own birds the character of being the best ever seen, and I proposed a triangular *duel* between them, the committee to settle matters with the conqueror. The two pens named in the report are very unfortunately selected. One hen in Mr. Davies' pen was ruptured to a degree, that, to use the words of a contemporary, "was painful to look upon," and Mr. Botham rejoiced in the presence of brown feathers, specimens of which still remain in hand.

With regard to the Dorking protest, I will only quote the account of your reporter, and say, "When there is a separate classification for peculiar feather, it should be insisted on strictly." The prizes were distinctly held out for "DORRING, Speckled (Blue or Cuckoo);" that is, for the old-fashioned blue or cuckoo colour, of which Mr. Elgar's were examples. The Judges, however, awarded prizes to other colours, and the committee did not like to withhold them; but surely an exhibitor who shows and wins with red birds in a class for blue or cuckoo should be the last person to protest against another taking a prize with a grey bird.

Now comes a matter which more immediately concerns myself, respecting the supply of whole barley to the fowls; and this I can best answer by stating the manner in which they were fed. At five o'clock in the morning the pens were cleaned out, fresh gravelled with screened gravel or coarse sand, and a green turf placed in each. As soon as this was accomplished, the birds were fed with soft food, consisting of three parts barley-meal, and one part fine middlings, made into a stiff mass with water. In the course of each day they had a supply of sliced cabbage (two light cart-loads having been consumed during the Show), one small feed of whole barley, and two more of soft food, one man being constantly engaged in supplying water to the pens. Under this diet and regimen two birds only died during the Show, contrasting strongly with the number of deaths in the shorter Show last year, when the management was in other hands.

A regret is expressed that Mr. Forest's Duckwing Bantams were unnoticed. The facts that one hen is yellow-legged, the other white-legged; one rose, and one singlo-combed, were doubtless noticed by the Judges, and, consequently, the pen disqualified, spite of the extreme beauty of the cock.

Some remarks were made on the *Polands* exhibited by myself as *Black-crested White*, in which they are described as "having bodies nearly white, with darker under feathers, spotted necks, and their *top-knots part cuckoo, with a few light brown feathers*." I can only state, in reply, that the latter part of this description is simply false. There is not a single brown or cuckoo feather in either of the three birds shown; the crest of one was perfectly black, that of the others of a *very dark slate*, one having a few white feathers in the crest, that I allowed to remain, as I wished to show them as they were, and not as they ought to have been. I enclose specimens of the crest and body-feathers of each of the three birds exhibited, and would request the Editors' opinion respecting their colour, believing that most of my readers will consider them forwarded in good faith as to the mode in which it is stated the birds may be produced. Your reporter only published his profound ignorance of the laws which regulate the production of colour in fowls, and of the actual results of crossing the different varieties of crested birds, in hazarding the assertion that he

made. The fowls were not exhibited by myself as perfect, *but they are by far the nearest approach to the required standard that has ever been made*; and when it is taken into consideration that many amateurs have been trying in vain for years to accomplish a restoration of this long-lost breed, I think they were not unworthy of the notice they received; and this opinion I have every reason to believe is held by nine out of every ten persons who saw them.—W. B. TEGETMEIER.

[Some of the feathers forwarded were perfectly black, and the others perfectly white.—ED. C. G.]

THE ANERLEY EXHIBITION OF DOMESTIC POULTRY.

(From another Reporter.)

THIS long-anticipated treat to poultry amateurs fully justified the preconception that for many months has been the opinion of most parties, viz., that for spirited competition it would far excel all that had preceded it. The grounds of the Anerley Gardens are especially well suited for the purposes of a Poultry Show, being very spacious, extremely well kept, and particularly rural. Large numbers of the trees have evidently stood for very many years prior to the general "laying-out" of the pleasure-grounds; and, as the weather was excessively hot, their shade was duly appreciated by the crowds of visitors who attended. Among them we noticed, not only many of the aristocracy, but also amateurs who had travelled from Liverpool, Manchester, and even so far as Northumberland, for the single purpose of being eye-witnesses of the rivalry among, not only the best fowls in the kingdom, but also birds that had been intentionally kept back from other Shows, that their condition might be unimpaired on this occasion. There are but few counties that did not forward some variety of fowls to Anerley, and, from this cause, the interest of the exhibition increased proportionably. The efforts of the managing committee to please all parties were untiring, and it is simply justice to say that poultry were never better attended, during any exhibition, than at Anerley. Green food was liberally provided as regularly as possible, and proved most acceptable, from the scorching nature of the weather generally, and the continuous health of the poultry was consequently very good. Without farther comment we will take a rapid glance at the various classes.

The *Sebright Bantams*, which stood first on the prize list, were superior, and most perfectly-laced birds, although the condition of the majority was open to exception, from their having commenced moulting. The other varieties of Bantams do not call for any especial mention, if we except a few pens of very good Game Bantams.

The *Hamburgh Cups* were well disputed, and the poultry here shown excellent; but many competitors lost every chance, from the "old fault" of placing a *top-comb*, to the inevitable disqualification of birds otherwise well calculated to fulfil their owner's wishes. It will be seen, by reference to the prize list, that the premiums were pretty equally divided among those most notorious for these varieties, many of whom have expended large sums in procuring their exhibition stock. It is, therefore, a pleasure to refer to the fact, that a labouring cottager took precedence in the Silver-pencilled Chickens of this present year, in the most severe competition with more than two dozen of really excellent pens. We trust this may serve to raise the emulation of other parties similarly situated. The *Polands* were very superior, and the premiums closely run for. "The great gun" of the exhibition may aptly here be referred to, viz., a pen of *Black-crested White Polands*. They were certainly most extraordinary birds, such as have never before been exhibited, and excited a good deal of attention; they were chickens of the present year, and were undoubtedly the nearest the requirements of this all but extinct variety we have yet seen. In *Spanish* we do not remember to have ever witnessed so good and well-filled classes. The birds from H. D. Davies, Esq., not only, however, fully maintained their previous position, but it will have been seen that that gentleman secured both first and second prizes in adults, closely run by his spirited and untiring rival, Captain Hornby, of Knowsley. It strikes us

most forcibly, that the inapproachable condition which the Knowsley fowls formerly maintained has not been so general as heretofore, in the adult *Dorkings* more particularly. The *Game* were decidedly far beyond what are generally met with. The Cup birds, belonging to Mr. Shields, were most extraordinary specimens, and well deserved their exalted position; but the keen and close inspection of a competitor afterwards discovered and exposed a piece of the most artistically carried out "trimming," which consequently, and very properly, "disqualified" the fowls, and the Cup, therefore, remains still in the hands of the committee. One of the principal feathers of the tail had been temporarily fastened on, by "splicing it" at the root, and affixing a fresh feather as a substitute for the removed one, by neatly and tightly binding the severed portions together with waxed dark thread. It so happened that, during a temporary quarrel between his two hens, the cock partially disnitted this new "fixture," and thus its owner not only lost the Ten Guinea Cup by disqualification, but the artifice was exposed. It occurred about midday of the day of opening to the public. Surely this practical lesson will not be lost in preventing an attempt at such deceptions for the future. Among the *Cochins* were many very good birds; the principal Ten Guinea Prize was allotted to the best pen of White Chickens we ever saw, the property of John Fowler, Esq., of Aylesbury. They were classed by Sir Joseph Paxton. Twenty-three pens of *Brahmas* competed in the four classes allotted to them; the Judges, however, withheld the Cup. From the fact of the continued attempts now making, by a few parties, to press these fowls into notoriety, some angry feeling was manifested by the persons who thus unsuccessfully exhibited; nor were any efforts withheld to impress on the bystanders the great superiority of these fowls over all other varieties, and the continued popularity they enjoy, combined with the fabulous statement that the "demand for them at the present time" was unprecedented. We admit that, of all poultry, *Brahmas* have been "run up" with the greatest pertinacity; but the impossibility of breeding to anything like one definite standard has tended not a little to their difficulty of disposal, and fictitious sales are, at this present hour, daily occurring, being a last resort to perpetuate the introduction of the renowned Barnum, of transatlantic notoriety. The *Dorking* classes were very good. The *Turkeys* were remarkably fine, and the competition general throughout all the class; indeed, we have rarely seen so universally meritorious a class, there not being a single indifferent pen throughout the whole. The *Ducks* were scarcely surpassing mediocrity. Before concluding, it may be well to mention, that the Judges were restricted, in every class, to a single "commendation" by a bye-law of the committee; a feature somewhat calculated to depress the prize list in the estimation of non-attendant amateurs, who were thus debarred the opportunity of judging for themselves of the univalued and close competition that generally prevailed. We are glad to hear that the return of the fowls was as expeditious as even the most anxious amateur could desire.

EXHIBITION OF POULTRY OF THE MANCHESTER AND LIVERPOOL SOCIETY, IN CONNECTION WITH THE ANNUAL AGRICULTURAL MEETING.

THE season of the year was, of course, especially unfavourable to poultry, the late spring causing the chickens to be as yet very immature, whilst the adult fowls were mostly moulting heavily. This Poultry Show took place on Thursday, August 7th, and was held in a most spacious and convenient spot of ground, called "The Mesnes," near to Wigan, under a tent 166 feet long by 45 feet wide, and ranging its whole length, 25 feet in the centre. Our remarks must be somewhat general. The *Dorkings* stood very highly, and were even superior to those of last year; they are gaining much in public estimation in Lancashire, and, singularly enough, almost all our best fowls of this kind now come from this neighbourhood. The Manchester and Liverpool Society has always done much to improve a taste for the culture of domestic poultry, and certainly its just concluded Exhibi-

tion proves incontestably how much advantage may be derived from stimulating by the offer of annual prizes for the most praiseworthy. The entries were far more numerous than heretofore, and the generality of the stock was excellent. The *Dorking* chickens were especially good, and some young *Pencilled Hamburgs* shown as extra stock were very promising specimens. The *Game* ranked highly. Among these some white chickens were the best we remember to have yet seen. A pen of *Silver-laced Bantams* were most deservedly winners of the premium allotted to them by the Judges—William Smith, Esq., of Halifax, Yorkshire, and Edward, Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham; both those gentlemen stating the cock was by far the smallest adult Sebright they had ever met with, whilst the lacings of all three birds were unusually good. The *Ducks* and *Geese* were most particularly good, and enjoyed themselves far more than common under the restrictions of a Poultry Show; they were allowed the range of very extensive coops on the grass, and showed, therefore, to great advantage. The fowls were exhibited in the round wire cages so well-known as Greening's Pens, and from the excessively high temperature that constantly prevailed under the tent, they were especially suitable to the occasion. The company who visited the Exhibition comprised most of the surrounding nobility and aristocracy, and the attendance of agriculturists and the working classes of Wigan exceeded by far that of prior meetings.

DORKINGS (Grey).—First, Thomas R. Sleddal, Fazakerley, near Liverpool. Commended—Captain W. W. Hornby, R.N., Knowsley, near Prescott.

SPANISH.—First, Captain W. W. Hornby, R.N., Knowsley, near Prescott.

GAME.—First, Captain W. W. Hornby, R.N., Knowsley, near Prescott.

COCHIN-CHINA.—First, William Copple, Eccleston, near Prescott. (Buff.) Commended—William Copple, Eccleston, near Prescott. (White.)

HAMBURGH (Golden-pencilled).—First, Joseph Tate, Syke Hill, Preston.

HAMBURGH (Silver-pencilled).—First, John Robinson, Vale House, Garstang.

HAMBURGH (Golden-spangled).—First, William C. Worrall, Rice House, near Liverpool.

HAMBURGH (Silver-spangled).—Prize withheld.

BANTAMS.—First, William Wright, West Bank, Widnes, near Warrington. (Silver-laced.) Commended—Henry Worrall, Knotty Ash House, near Liverpool. (White.)

ANY OTHER BREEN, OR CROSS BREEDS.—First, John Robinson, Vale House, Garstang.

GESE.—Prize withheld.

DUCKS (Aylesbury).—First, Thomas Burnett, Hutton, near Preston.

DUCKS (Rouen).—First, William North, Leeds Road, Huddersfield. (Cottager.)

ANY OTHER BREED OF DUCKS.—First, Thomas Burnett, Hutton, near Preston. (Aylesbury.) Highly Commended—Henry Worrall, Knotty Ash House, near Liverpool. (Call.)

GOSLINGS.—First, William Copple, Eccleston, near Prescott.

DUCKINGS.—First, Edward Lister, Cassia Lodge, near Northwich, Cheshire. (Aylesbury.) Highly Commended—Thomas Bankes, Weston House, Runcorn, Cheshire. (Rouen.)

DORKING CHICKENS.—First, Captain W. W. Hornby, R.N., Knowsley, near Prescott. Highly Commended—William Copple, Eccleston, near Prescott. (Grey.) Commended—Edward Lister, Cassia Lodge, near Northwich, Cheshire.

SPANISH CHICKENS.—First, George Fell, Warrington.

GAME CHICKENS.—First, Rev. Thomas Edw. Abraham, Bickerstaffe, near Ormskirk. Highly Commended—Wm. Lomax, Stoneclough, near Manchester.

COCHIN-CHINA CHICKENS.—First, Thomas Burnett, Hutton, near Preston. (Buff.) Commended—Frederick W. Earle, Edenhurst, near Prescott.

SILVER-PENCILLED HAMBURGH CHICKENS.—First, William Wright, West Bank, Widnes, near Warrington. Commended—Richard Wright, Wrightington, near Wigan.

SILVER-SPANGLED HAMBURGH CHICKENS.—First, Thomas Burnett, Hutton, near Preston.

POLAND CHICKENS (Black with White Crests; Golden or Silver).—First, George Fell, Warrington.

CHICKENS OF ANY OTHER BREED.—First, Edward Roberts, the Golden Lion, Oldham Road, Manchester. (Spanish.) Highly Commended—John Robinson, Vale House, Garstang. (White Dorking.)

WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 19—25, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
19	Tu	Lasiocampa Neustria.	29.791—29.689	76—56	W.	.02	51 a 4	13 a 7	8 38	19	3 19	232
20	W	Lasiocampa castrensa.	29.929—29.809	66—58	S.W.	.05	55	11	8 53	20	3 5	233
21	Th	Sun's declinat., 11° 59' N.	29.878—29.817	74—42	W.	—	57	9	9 11	21	2 51	234
22	F	Nolodonta Zicrae.	29.994—29.961	76—52	W.	—	59	7	9 33	22	2 36	235
23	S	Nolodonta camelina.	29.598—29.691	81—56	S.E.	.12	v	5	10 5	23	2 20	236
24	SUN	14 SUNDAY AFTER TRINITY.	29.876—29.725	74—40	S.W.	—	2	2	10 49	24	2 5	237
25	M	[St. Bartholomew.	30.006—29.961	73—49	S.W.	—	3	0	11 49	25	1 49	238

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 51.5°, and 50.4°, respectively. The greatest heat, 88°, occurred on the 21st, in 1835; and the lowest cold, 32°, on the 21st, in 1850. During the period 105 days were fine, and on 91 rain fell.

COMMUNICATIONS received from a majority of the chief corn-producing counties of England, and personal observation in some of those counties enable us to state, without any reserve, that the crops will yield much above an average. In some places "the yellows," or grub of the Wheat Midge, has done a little damage, and in other places the smut is partially present; but, as a whole, the corn returns of England will be very heavy.

The Potato Murrain, we can state from the same sources of information, is much less prevalent than for many years past; and the yield of Potatoes is almost universally healthy and abundant; so that, as *Punch* says, such misfortunes as Plenty and Peace are likely to come upon us together. This is a bad look-out for the croakers, who are headed by those desirous of high prices—speculators from whose misfortunes we derive singular satisfaction.

THE new Council of the London Horticultural Society are proceeding in a business-like, common-sense course. They have visited the Chiswick Gardens, and find that the gentleman who offered to have those Gardens kept in thorough good order for £1,200 yearly was correct in his calculation. Mr. Thompson and other practical men agree that this can be accomplished under economical and good management. Who prevented this being done before? The Gardens, therefore, will be preserved, and we, in common with all the other subscribers, we hope, will come forward with the promised aid. This will enrich the funds of the Society by about £3,200. Then the Council are offering for sale the Regent Street House, and we will suppose, in round numbers, that it realises £4,800. Then the Library will be sold, and will fetch nearly £1,000; so that the Society will be then cleared from all but about £1,000 of debt, which can be easily got rid of by two or three successful summer Exhibitions.

Then, for the future, the annual expenditure will be kept within its annual income. The rent for offices, it is hoped, will be nothing; the management of the Gardens will be greatly decreased; some of the officials will resign, and their places not be filled up; various annual extravagances will be avoided altogether; so that at the end of 1857 we have reason for believing the Society will be solvent, and pursuing its course of utility unencumbered.

A gentleman thoroughly acquainted with the private history of the Society has promised us the publication of his notes. It may be entitled, "The Doomsday Book of the London Horticultural Society."

THE August Meeting of the Entomological Society was held on the 2nd instant, the Chair being occupied by I. O. Westwood, Esq., Vice-President, in the absence of the President. The donations to the Society's library were numerous, including the publications of the Royal and Zoological Societies, and works from Messrs. Nylander, Guerinmeneville, Kolenati, Lovell, Reeve, Stainton, &c., as well as a report presented by the Natural History Society of Mauritius on the destruction of the sugar crops in that island by the *Borer*, a Lepidopterous insect in the caterpillar state, belonging to the family Pyralidæ, which burrows into the canes, and causes the entire destruction of the plant.

The exhibitions by various members comprised a considerable number of raro and several new insects of much interest. The most important of the latter was the *Erispos latreillii*, a new Moth, belonging to the family Noctuidæ, of great beauty, which had been reared from the larva by Mr. Hunter. A new species of Pyralidæ, belonging to the genus *Phycita*, from Folkstone, was exhibited by Messrs. Samuel Stevens and Tomkins, the former of whom also exhibited a new *Lozotania* from the same locality.

Mr. Douglas exhibited a specimen of the extremely rare *Drepana sicula*, from Leigh Woods, near Bristol, captured by Mr. Bolt; a single specimen of the species (taken in the same locality) being only hitherto known as British.

Mr. Hunter exhibited *Spilodes palealis*, *Trochilium chrysidiforme*, and *Ennomos illustraria*, from Folkstone. Mr. Weir, a number of specimens of the Moth *Macaria notata*, all of which were more or less crippled, wanting one or other of their wings, a circumstance to which this species appears to be particularly liable. Mr. F. Smith said that he had observed that sometimes Wasps were developed without any traces of wings!

Mr. Samuel Stevens exhibited *Harpalyce galeata*, and *Deilephila Galii*, from the sand hills near Deal. Also, several of the beautiful *Trochilium chrysidiforme*, a species which had been improperly struck out of the British lists as a doubtful native.

Mr. Frederick Bond exhibited several beautiful speci-

mens of the rare *Graphiphora ditrapezium*, taken in the preceding month at Blandford, Dorsetshire.

Mr. Douglas stated that he had observed, at sunset, on a recent occasion, considerable numbers of a species of *Coleophora* on the wing, a circumstance of great rarity, as the species are generally very sedentary, and probably owing to some peculiar state of the weather or atmosphere.

Mr. G. R. Waterhouse exhibited a number of interesting minute *Coleoptera* from the New Forest, including five species of *Myrmidonia*, all taken in the nests of black Ants. Also, *Oxyptoda vittata*, in the same situation, and the beautiful *Orchesia fasciata*, which had been reared from the larva.

Mr. Wollaston also exhibited a number of rare small *Coleoptera*, from Leicestershire, including *Scraptia fusca*, hitherto known as British by a single individual, and a remarkable monstrosity occurring in a species of *Galerucida*, having the left antennæ furnished with three distinct articulated branches.

A paper by Mr. Newman was read on the effect produced on insects by the fumes arising from bruised Laurel leaves, and the employment of this material as a simple and very efficacious means of killing insects for the cabinet has been latterly extended with success to the destruction of obnoxious species in greenhouses and other horticultural erections, the gas evolved from the leaves being as effectual for this purpose as chloroform itself. It was admitted, however, that its effects were less satisfactory with some species than others; pounding the leaves, also, was not found to be nearly so efficacious for the collector's purposes, after the first day, as the leaves simply cut into small bits, the gas being evolved more continuously and for a larger period by the latter mode, although the more rapid evolution of the gas was the more necessary for practical horticultural objects.

WELLINGTON ROAD NURSERY.

(Continued from page 346.)

PETUNIAS.—There is no class of flowers more easily ruined by the superior handling of the operative florist than the Petunia. The herbaceous Calceolarias held out under the ordeal much longer; but they are thrown overboard now by the very people who ruined them, the secretary of the Horticultural Society having washed his hands of them last spring in Mr. Rendle's "Price Current." But the Petunia and herbaceous Calceolaria being of exactly the same age under cultivation, the first in Ireland in 1831, and the latter in Scotland the same season—I saw the first coloured Petunia which opened in England in a stove at Lower Broughton, a little out of Manchester, and the first Calceolaria ditto in Young's Nursery, at Epsom, in May, 1832—I say, how is it that the one should yield up before the other? The reason is that the Calceolaria "took" the fancy at once; while few thought of "improving" the Petunia for some years after its introduction. When I began flower-gardening in 1840 there was not a good bedding Petunia in England, and I made a model Petunia for the flower-beds, at which the florists turned up their noses, but which has stood, all over Europe, as the model Petunia to this day, with only two improvements by

uncrossed seeds: the first is called *Marquis de la Ferte*, and is the same as *Shrubland Rose*, the model plant, with more white in the eye, the rose ground being the same as in the model; the second is the *Countess of Ellesmere*, and is an improvement in the eye, in the ground colour, in the substance, and in the vigour of the plant. The *Countess of Ellesmere* is worth all the Petunias of the florists ten times over, and is, without exception, now the best bedding plant of the kind on the face of the earth. There is a whole bed of it here more than twenty yards long, and I cannot be mistaken in my own model. All the striped Petunias which I mentioned from Mr. Salter's Versailles Nursery were here likewise, and also in the open ground. They are certainly very pretty ornaments as long as they retain their stripes and markings. Some of the best of them are *Hermione*, *Docteur Andry*, *Gloire de France*, *L'Abbé Claude*, *Striata formosissima*, *Majestic*, and many more of them; but the best way to get them is to order so many kinds, and leave the selection to the dealer, who must know more of them than a thousand gardeners on a flying visit.

ALSTRÖMERIAS.—Another of the long beds was crowded with Van Houtte's seedling Alströmerias, as fine in bloom as ever they were or could be in Belgium. I have not seen such a bed since I left off growing them that way in 1836, when I had the most unique bed of them in England; the different sorts in circles, in a circular bed, and the bed edged with the twining *Bomarea acutifolia*, only a foot high, being trained on sticks round and round. Deep, rich, sandy soil, and plenty of very rotten dung, are all they want; and I should say this was the best bed of them that ever was seen in this country. Next October and November is the time to buy them in dry roots, and to plant them at once full six inches deep, and a good mulching over them while the frost lasts. By-the-by, is it not a species of cruelty to animals to tease me with private letters about the Cocoa-nut mulching stuff after telling all I knew about it? The man in the moon knows just as much about it as I do beyond what I stated. The mills are just out of Kingston, and there must be a "manager." Write to him; or buy a bed of Alströmerias from this Nursery, and mulch it with the nut refuse from Kingston.

PHLOXES.—There is a radical reform urgently wanted among the new seedling Phloxes. There are above one hundred names under Phlox which might very easily be dispensed with, and I shall do the State service, and give a vast impulse to the trade in fancy Phloxes, if I can put down one hundred of them at one rap. We all know that *Omniflora compacta* is the best bedder of all the new Phloxes that have been tried previous to the present season; it is the first I noted down in this Nursery. The next best was *Ovis*, which is a half-dwarf kind, of good, stout habit, and a splendid white flower of great substance, with a blush round the eye, and the whole limb, or spreading part of the flower, dies off into a blush shade; and *Countess of Home*, a Scotch seedling by Downy and Laird, a light blush flower of great substance, and with a dark eye. These three are the best, and the only three out of threescore of the same cast which I would admit into the Experimental. The coloured ones require more time and consideration, and I must pass them to-day, and only mention *Criterion*, a decided cross, as it would appear, between the herbaceous and the *Drummondii* sections. *Criterion* is a very nice striped one.

DELPHINIUM.—They have a new Delphinium in the way of *Hendersonii*, but of a more dwarf habit, and larger flowers: it is called *Formosum*, and with *Hendersonii* you could see its distinctness from any part of the grounds. These require the richest soil, and the shoots to be cut back to one-half their length as soon as they are nearly out of bloom. Do not stop till the last

lingering flowers are open, but cut every flowering shoot, any day through the summer, as soon as the prime is over, and that treatment enables the plant to throw up sucker-like shoots, and continue to flower on such shoots till very late in the autumn. That is how we do them in the Experimental, and we have a better bloom than in any of these great Nurseries, and, as I take it, because they do not pay the same strict attention to the half cutting down of the flowering shoots. I see them staked in some places, that is, the *Hendersonii*, but that is a bad sign. *Formosum*, which is certainly better than *Hendersonii* for the flower-garden, seems to be more easily managed.

LANTANA.—There was a row of upright plants in bloom of *Crocea superba* down one side of one of the long beds, quite in the open ground, and away from all shelter, and another of *Delicatissima*, a lilacy-rosy flower, which looked to me as if it was a cross between the *Sellowii* and *Crocea* breeds; at any rate it is a very nice flower-garden plant, and the way I would use both of them, if I had or could have my own way, would be to train them against low walls, the front of a greenhouse to wit, or any such place, and I would give them stuff rich enough to grow Cucumbers or Cauliflowers. I was told they had many more kinds of Lantanas quite as good, but having not seen them in bloom, I say nothing about them. I recollect that Mr. Low told me last February that I ought to see their Lantanas in bloom out-of-doors, as they were such nice flower-garden plants, and as very few people knew anything about them.

DWARF BLUE LOBELIAS.—*Ramosoides* and *Speciosa* are the best two for edging beds with; and the true old *Gracilis*, from seeds or cuttings, is the best to edge vases with, which are planted with Scarlet Geraniums. It is wrong to write *racemosoides*, as some people do. The meaning of *ramosus* is as different from that of *racemosus* as day is from night. *Ramosus* not only means branchy, but very branchy: the *osus* at the end of Latin words ought to mean an excess of the thing signified. *Racemosus* means that the plant flowers on very many spikes or racemes; and lastly, the true *Ramosoides*, from the best London authority, does not produce a single seed in the Experimental Garden, and even if it did, the seedlings from a chance variety like this could not be depended on for coming so true as to make a uniform dark blue band round a bed. That question may, therefore, be considered as set at rest, and no one ought honestly to advertise seed of the true *Ramosoides*. The old *Compactum album* Lobelia in the rich ground of this Nursery was nearly as strong as the *Ramosoides*, and when it is so, it makes a most lively edging to a pink, purple, or scarlet bed. A little bed of *Etoile de Vase*, Ivy-leaf Geranium, edged with the white *Compactum* Lobelia, would be a real gem, while a match bed of the variegated *Lateripes*, edged with the blue *Lobelia speciosa*, not *Ramosoides*, would be another cast of gems. These two little Geraniums and Lobelias may be trusted in the very richest compost.

FUCHSIAS for beds must be selected with the greatest care, whether they be grown as bush plants or as standards. The great object is to get Fuchsias to show themselves in the bed, and when we can thus see them, that they are of the best form and colour for a bed. Here was the largest collection of Fuchsias I ever saw. Many of them were planted out, and most of them were as good as being planted out, for they were trained into large, bold, specimen plants, and I spent a good deal of time studying them, for, to tell the truth, the numbers are, like those of the Scarlet Geraniums, quite overwhelming, and, like the Phloxes, I would hew them down, that is, the whole race of summer Fuchsias, to twelve kinds, eight red ones and four white ones; and out of the eight red ones I would take my best three for

a bed, that is to say, *Prince of Wales*, for the centre of a circle; *Favourite*, or *Banks's Favourite*, for the next; and *Charlemagne*, as the very best of all the Fuchsias that the world has yet seen; but understand me, I have no florist's eye. I can only see for ladies and flower-gardens; but in this capacity, I repeat it, that *Charlemagne* is the very best of all the Fuchsias. Now, just let me tell you how it looks. The inside part, called the corolla, is as regular a cup of its size as ever was used at tea or breakfast, and you might think it was cut out of a violet purple piece of ivory, and this cup is nearly as large and not unlike a *Linum grandiflorum* flower only three-parts open; the outside, which they call sepals, are of a brilliant scarlet, and turn back as much as the *Turncap* Lily; this they call reflexed: the plant is not over-strong, as far as I could judge. After these, and for pot culture, *Venus de Medici*, a blush-pink outside, and the cup as in *Charlemagne*; *Emperor Napoleon*, scarlet and purple; and *Donna Joaquina*, ditto, are the best according to my fancy. The last two may suit for bedders, but I would not plant many of them till I saw, with my own eyes, how they would "show off." The *Duchess of Lancaster* is still my own favourite white Fuchsia; but I have not yet made up my mind which is the best white out-of-doors, or if I would bed any of the white kinds.

Bedding Geraniums of the *Oak-leaf* and *Diadematum* kinds—every one that I ever mentioned in THE COTTAGE GARDENER except the old *Diadematum* itself—I found here in profusion, and some that I had not seen before. One called *Momus*, a cross between a *Diadematum* kind and some *Quercifolium* from the Continent, is dwarf, and seemed to me a very promising bedder; *Igneus superba* is a capital style for a bedder; *Glaucum grandiflorum* the same. This and the *Duchess of Sutherland* are the only two really good white or whitish bedders we have. I sent a better white than either of them, an amt of *Bridal Ring*, to Kew, some years since, by the name of *Annette*, but they lost it. I also sent them forty-five other bedders and borderers at the same time upon their own application. At the closing of the Experimental for the season, I shall tell how many kinds I had from Kew and from the Horticultural Society, to whom I sent four times as many as I sent to Kew when they began experiments on flower-beds. *Picturatum* is one of the prettiest bedding Geraniums they have here, but I should fear it to be too strong for most places; a full truss of it would make the best centre for a nosegay of all the tribe. *Pretty Polly* is only a mixed border-plant, but to cut for bouquets it is next to *Picturatum*; but I find, from sad experience, that *Pretty Polly* was never in stays, nor taught the use of "common things." She seems to me, for all the world, to have been a spoiled child in school, for she will not submit to training for this or that, and lately she has taken to wear her grandmother's caps, under which no one can recognise the *Pretty Polly*; she is, verily, a sporting child of nature, on which no reliance can be placed. *Nutans* is a very pretty dwarf bedder of the first water, a match for *Quercifolium coccineum*, and a better plant and flower. *Facelle de Loire* is nothing more than the smaller-flowered white *Ivy-leaf*, and whoever sent it to this country by this new name ought to be punished severely, and if I get hold of his name, every bone in his body will be "pressed" into these pages. *Isadonianum*, a strong relative to *Spinii*, is the great-grandmother of the new French Pelargoniums, as I was told in 1849; but our florists play havoc with these names. I grow them both many years back, and the right names are *Isidoreanum*, after *Isidore*, Bishop of Seville; and *Spleenii*, after a Mr. Spleen. *Lindleyana*, much after *King Rufus*, but a better grower. *Model*, a bold reddish bedder of the Unique breed. *Unique de Beroldi* looks like our old purple Unique, and is

near it in flower, but is as dwarf as *Lilliput*; if they can but once get a stock of this kind, good bye to all other Uniques for beds. A remarkable dwarf and free-flowering light one called *Giovani*, all the *Diadematum*s except the original, all the *Quercifolium*s and *Uniques*, and many of the old Cape species which I thought were lost, are here cultivated in abundance for trade orders.

I noted the following hardy plants as very striking in mixed borders, or as edgings, or on rockwork:—My old favourite *Oenothera speciosa*; *Coreopsis lanceolata*; *Centaurea argentea*, the best frosted silver plant; *Salvia Lilleanum*, hardy blue, late autumn kind, very useful; a large variegated *Coltsfoot*; an elegant variegated *Lungwort*; *Polemonium caeruleum*, a nasty weed turned into a graceful variegated edging; the Cocksfoot grass, *Dactylus glomeratus*, variegated (I have two yards of edging of it for experiment; I think it will be *exquisitum* for some beds); *Myosotis montana*, the best Forget-me-not for pots in spring, and for rooms; *Matricaria grandiflora*, as the best double white Chamomile-like plant; *Emilia undulata*, a variegated kind of *Lanceifolium*; *Astrantia major*, variegated, and very conspicuous; a double yellow *Lotus*; *Primula involucrata*, white flowers; *P. mollis*, mentioned in one of my spring reports from Regent Street; *Polygonum racemifolium*, often recommended as one of the very best trailing plants for banks and rockwork; *Sempervivum Californicum*, a kind of Stoncrop-like plant, conspicuous from the dark points of the clustered leaves, a nice rock-plant; a frosted silver-like *Saxifrage*, in dense diminutive tufts, by name *Cristata*; another match to it is *Rosularis*, and a third, the minor or minimum of the three, called *Incrustata*. Now, of all the rock-plants, these would make the best "coping" for the edging; the broken burnt bricks of the pincushion beds all in character, and as nice as a lady's work-box, and ten times more tidily arranged than many of the latter. Four distinct varieties of *Saxifraga oppositifolia* and *capillaria*; a very prim and diminutive *London Pride*, like *Saxifrage*; *Sibthorpia Europaea*, a dense hanging basket-plant, like some new *Lycopod*; *Isolepis gracilis*, alias *pygmaea*, one of the most elegant grass-like plants for suspending in baskets, and to be kept from frost; the old *Disandra prostrata*, to hang down like *Moneywort*; *Saxifraga sarmentosa*, ditto; *Cerastium tomentosum*, to edge *Goranium* beds with as they do at the Crystal Palace; the *Variegated Mint*, alias *Balm*, and alias *Sage*. Under the last *alias* I have this moment received a large bundle of this *Mint* and a variegated *Coltsfoot* from a friend to the Experimental, which no one can possibly see this season. *Salvia porphyrantha*, a dwarf, dark scarlet, mixed border-plant; all kinds of *Pentstemons*, *Potentillas*, tall *Lobelias*, and other good old things, with all the novelties, are tested here every season; but such traders must keep many kinds, whether they like them or not, in order to be able to meet public taste; and, last of all, without going into any of the hothouses yet, let me recommend another model flower of my own making from this Nursery. Every garden in Europe and in America must have this flower, which is as hardy as a *Daisy*, and as lady-like as any flower of the kind can possibly be. I made it by a desperate effort, which is yet a mysterious secret to the rest of the world, out of an ugly plant which is in everybody's mouth—*Fortune's Calystegia pubescens*. *Beaton's Calystegia pubescens simplex* is the true natural form of the species—a large, lovely, French white, single flower, with five whiter ribs to it, and is as large as a flower of *Ipomoea Learii*, and lasts in bloom from June to the middle of September. It should be grown in masses in by- corners, and allowed to climb over *Pea-stakes*, no matter how rich or how poor the ground is; but, of course, a rich bed is best for it. I shall never cease to recommend this hardy climber, or rather, twiner, as long as I live.

I often wondered that public taste did not call aloud for it; and as long as it was confined to one private establishment, I could not well push it on in the world; but here it is on sale at last, and get it as soon as you can. Plant it for the present with the Chinese form of it, to see the difference between the tastes of a Mandarin and a Scottish Clansman named—DONALD BEATON.

STOVE AND GREENHOUSE PLANTS THAT MAY BE IN BLOOM IN JULY.

(Continued from page 349.)

GOODENIA.—Those named are pretty New Holland shrubs with yellow flowers, allied to *Eulalia*s and *Leschenaultia*, requiring peat and loam, and an airy position in the greenhouse in winter, and a cool place, such as a cold or turf pit, in summer, especially by the end of July to the middle of October. Red spider is apt to be troublesome in summer, and the chief antidotes are coolness at the roots, and a free application of the syringe. These plants stand a high sun temperature at their own homes; but then the soil is kept coolish by a covering of moss or grass. We only imitate this so far when we surface our earth in pots with moss, and place one pot inside of another, stuffing the space between with moss.

HAKEA.—Those named, and the whole order of *Protea*s, with their most singular flowers, and beautiful and diversified foliage, require very much the same treatment, namely, plenty of air, and an open position in winter in the greenhouse; when the outside temperature is not much under 40°, less air, and chiefly at the top of the house, fires being used when the temperature outside approaches and falls below the freezing point; peat and loam mixed with nodules of charcoal or broken pieces of pots to grow in; a limited supply of water in winter, giving no more than is just sufficient for the plants; more air and plenty of water in the spring months; a gradual hardening off, and then getting the plants out-of-doors in summer in an open, sunny spot, but so contrived that the roots and pots are protected from the fierce glare of the sunbeams; plenty of water then, with a good syringing frequently in the evening after hot days, and housing by the middle of October.

HIBBERTIA SALIGNA is the latest-flowering species of the genus, all of which are free-flowering shrubs and twiners with yellow flowers. *Volubilis* would be valuable but for its foetid scent; and *Grossulariaefolia* is a beautiful trailer suspended from a basket. *Saligna* has neat Willow-like leaves, and blooms freely, and grows with little trouble in sandy loam. After May it will stand out-of-doors, or in a turf pit, until the end of October.

HOVEA.—One of the finest families of Leguminous plants, rather difficult to cultivate into fine specimens, unless the following are closely attended to:—Thorough drainage, so that there is no chance, at any time, of stagnant moisture, as whenever the soil approaches the nature of a morass, ruin is certain; a free, open compost, which will pretty well drain itself, independently of the well-placed drainage at the bottom of the pot; the compost consisting chiefly of heath-soil, with a little fibry loam as the plants get a good size, and kept open by nodules of charcoal, freestone, and pieces of broken pots, and a good deal of silver-sand, to make all light, and fill the interstices between the roughish soil; great care in watering in winter, and making sure that no worm has had a chance to choke the drainage; plenty of air when the outside atmosphere is free from mist, and above 40° in temperature; an inside temperature of 40° to 45° in the coldest dark months, with a rise of 10° to 15° for sunshine; and if very bright,

preferring to sprinkle the heads of the plants at times, instead of saturating the roots, as in sudden, bright sun-shines after dull, cold weather, the plants will seem to suffer at times when they are quite moist enough at the roots; more water and air as the days lengthen in spring, with a free use of the syringe, and care taken to protect the pots a little from the sun in summer, especially if full of roots.

HUMEA ELEGANS.—Many grow this to a great size for house decoration; others are content with smaller plants for the centres of flower-clumps, and baskets, and vases out-of-doors; and for either purpose it is really elegant. For the latter purpose, let me remind our readers that the plants should not be trusted out until the middle of June if the place is at all exposed. I turned out fine large plants about the end of May, and the best, in a favoured spot, have been next to entirely destroyed, most of the leaves having been blackened and scorched. The worst plants are now the best. Sow any time from April to the middle of June: prick out in pans as soon as the plants can be handled, and pot singly as soon as they will bear it; and pot again and again as soon as the roots get to the sides of the pot, until the second week in September; and if shifted so late the shift must be small, so that the pot will be full of roots before winter sets in; keeping them all this time, if possible, under glass, in a cold pit or frame, with plenty of air, and removing them to a house commanding fire-heat by the third week in October. They should seldom be below 40° in winter, and, with air, will take no harm if several degrees higher. Those who have an intermediate or a forcing-house may grow them to a large size by shifting about the new year; but those who have only greenhouse treatment to give will find the 1st of March early enough; and these latter will make fine, though not such monstrous plants. If to be kept in the house, shift again in May; if to go out-of-doors, if the place is at all cold, delay planting out until June. Rich, sandy loam grows it to perfection, though when it gets a good size it will take good, rich top-dressings and manure-waterings with avidity. It is desirable to keep a plant inside the greenhouse for securing perfect seed. I never met one who did not admire its elegant grass-like inflorescence. Mr. Fleming used to place it in the centre of Ivy-baskets of Geraniums with fine effect.

INDIGOFEA.—Many of these bloom in July, and they are all interesting, and easily enough grown in peat and loam; but the great drawback is the constant vigilance that must be exercised to keep the red spider from them, as he dearly likes one and all of them.

IPOMOPSIS ELEGANS.—A beautiful biennial, requiring extra care. Any one with moisture, heat, and room, can easily grow such showy plants as *Cissus discolor*, *Coleus Blumei*, and the bothouse varieties of *Vinea*; but wherever there is a beautiful show of this *Ipomopsis*, formerly going under the name of *Gilia pulchella*, it at once declares that extra skill and attention have been bestowed. It is very impatient of shifts, and of the least extra moisture, especially near the collar of the plant. The easiest mode is to sow, in August, thinly round the sides of a six-inch pot, in fibry, sweet, sandy loam; to thin out as the plants grow; to have a hollow place in the centre of the pot, and a crock there on which to pour the necessary water in autumn, without touching the stem or collar of the plants; to place them in pans on a front shelf in the greenhouse, where they can have plenty of air and light; and, during the dull months, to give them what moisture they chiefly need by keeping moss moist in the saucer below them, which thus saves the stem from all risk; for if moisture remains there any time, they will rot off to a certainty. About March, thin out to three plants, and water more liberally, but still with great care, as any extra damp, in a

stagnant state especially, will send the plant off even when near its blooming state.

LOTUS JACOBÆUS.—A pretty old favourite; requires similar treatment to an *Indigofera*. When the plants attain some size, they should be grown chiefly in fibry loam; when small, in equal parts of loam and heath-soil. Young plants thrive best, and cuttings should be inserted every other year. They strike quickly in sand under a bell-glass.

OLEA FRAGRANS is well worth growing for the delightful fragrance of its small, sweet flowers, and requires merely loam and peat, and the common treatment of greenhouse plants.

OTHIONNA ARBORESCENS.—An Aster-looking, yellow-flowered, Cape of Good Hope plant, requiring the protection of the greenhouse in winter, and a sheltered spot out-of-doors in summer, and grows freely in sandy loam.

PASSERINA, with the exception of requiring more peat earth, is equally easily cultivated, and is more interesting.

PERSOONIA.—Treat as *Hakea* and other *Proteads*.

PETUNIA.—I introduce this to express a fear that the double-flowered white will be chiefly useful as a pot plant where shade and shelter can be given to it. Out-of-doors the least wind ruffles it, and if it gets a good shower, you get a forest of leaves that pretty well threaten to bury out of sight all its flower-buds. I have a bed just now quite covered, with scarcely a flower. It may yet redeem itself, but an excellent white single variety is a mass of bloom, hardly showing a bit of green. As for the fine, sweet scent, I have never discovered it in this much-prized double; others may be more fortunate in detecting it. To me it has the strong, rather unpleasant odour of the common *Nyctaginia flor.*

PLUMBAGO CAPENSIS.—One of the prettiest things either for a pot or a column. The chief points in its culture are fibry loam and heath-soil to grow in; as much exposure to the sun as possible in autumn, to ripen the back buds; comparative dryness and freedom from frost in winter; pruning close back to two or three buds in spring; watering, shifting, and encouraging to grow afterwards, when the young shoots will produce their masses of light blue shoots at their points in July and August.

POLYGALA.—Most of the greenhouse kinds require fully three-parts fibry peat earth, and the other fibry loam, and are all worthy of attention where there is room in a large greenhouse.

RHODANTHE MANGLESII.—This is far more patient of shifting and handling than the *Ipomopsis*; but some of the finest masses I have ever seen were sown very thinly in six and eight-inch pots, and had merely the surface soil pricked up several times, and fresh surfaced with pure loam and peat. When sown in September or March, and intended to be grown singly, the sooner they are pricked out into small 60-pots the better, and what shifting is given should be attended to before the roots mat round the sides of the pot. Rich, sandy loam will grow it well. Sown in March in a slight hotbed, it will yield plants that will require much less trouble than those sown in autumn, though they will not bloom so soon.

ROELLA CILIATA.—This is one of the prettiest of all the Bellworts, with white and purple flowers, produced on the points of the compact stubby shoots, and a good shrubby little specimen always speaks of superior cultivation. Two things militate greatly against its beauty and health—too close and warm an atmosphere in spring, and a temperature too low, especially if associated with stagnant moisture in winter. It is easier to propagate than to grow it well. Small side-shoots, or the points of others when getting a little firm, two inches back from their points, strike rather readily in spring when inserted in sand under a bell-glass, and placed in

a mild bottom-heat. When young plants are shifted on, care should be taken to do so before the roots are much matted on the outside of the ball. Sandy, fibry peat, with a little leaf-mould, is best when the plants are young. Add fibry loam as they attain age and size, and mingle pieces of charecoal and pieces of pots with the compost to keep it open, though it be pressed firmly together. When done flowering in summer, cut it back moderately to sustain a compact bush character, and keep close and warmish until it has broken, and is growing freely, when it should have plenty of air to keep it stubby. It will stand well in a cold pit in autumn. In winter keep it in an average temperature of 45°, with plenty of air when possible, and a rise of 10° from sunshine. As the days lengthen in spring, keep the plant near the front glass, and here the temperature can be kept down by plenty of air, and the shoots will be numerous and stubby. In winter water only when needed. In spring and summer water more freely, and avoid sending the water on the collar of the plant.

SEKIZANTHUS.—Sow in August and September, pot off as soon as the plants can be handled, keep under glass close at first, and then give plenty of air. Place in the front shelf of a greenhouse by the end of October, and where there will be plenty of air, and no drip from the roof; keep moisture merely sufficient about them to secure them from flagging. Shift into flowering-pots in March and April, and few things will look more gay. At the shifting for blooming the soil should be light and rich; for keeping the plants over the winter the earth should be sandy and poor.

These are a few of the most showy; others are less interesting, or have already received more full attentions.

R. FISH.

SCRAPS FROM MY NOTE BOOK.

THE RASPBERRY.

In the culture of this most useful fruit there is, in my opinion, great room for improvement. It is well known that it is a kind of biennial shrub, that is, it bears its fruit on the preceding year's shoot, which shoot, when it has borne its crop of leaves, side-shoots, and fruit, dies. Hence, to keep up a yearly crop, it is necessary to have growing together, or simultaneously, both the bearing shoot and the young shoot, or shoots to bear the crop the succeeding year. The common way of managing this is to have stakes to each bunch of shoots, that bunch consisting generally of three shoots of each kind. Some cultivators have been at the expense of three stakes to each pile of shoots, placing a small hoop at the top of the stakes, and tying the bearing shoots separately to the hoop; others train them to espalier rails, which is, I judge, not a bad plan; but even the best of these methods is open to the objection of crowding the two kinds of shoots together, thus excluding light from the lower foliage and fruit.

I had the pleasure of seeing a method of training the shoots quite separately, this summer, in the market-garden of a good old friend of mine, Mr. John Flintham, who resides at Rotherham, in Yorkshire, and cultivates the Raspberry to a considerable extent in a very superior manner. The seeing this method has drawn from me the above remarks, and a determination to make known to the readers of *THE COTTAGE GARDENER* the mode he adopts to obviate the evil of crowding young and old shoots together.

In forming a new plantation, the best and strongest suckers are chosen. The ground is set out in rows six feet apart, and the suckers (three together) are planted four feet distant in each row, exactly opposite each other, so that, in fact, there are distinct rows crossing each

other at right angles; the only difference being that one way they are six feet apart, and the other four feet apart. The ground is, of course, in good order to receive them. After the canes have grown sufficiently strong the old ones are pruned away, and the young ones shortened in a little; they are then bent down, and made to meet those in the opposite row, and are tied together, so that they form a series of arches across the six feet space, leaving every alternate space vacant. In these vacant spaces the hoers and gatherers of the fruit walk to perform their operations. (In a small garden, where every inch is wanted for vegetables, small salading, Spinaeh, or even young Cabbages might be grown in these spaces; the latter to be pulled up, not cut, when gathered for use.) The fruit in Mr. Flintham's garden was the best I ever saw both for size, colour, and quantity. The free admission of light to the bent-down shoots gave them every advantage, whilst, at the same time, the young shoots for next year had all the benefit of the same necessary and congenial element. The next autumn the old shoots will be cut away and the young ones trained as before, only reversed, that is, the space vacant this year will be covered with the bearing shoots next season.

My friend does not claim his practice on this fruit as original. It has been practised before, but, as I think, not so systematically. I have seen shoots bent down and formed into arches, but they were formed in the rows longitudinally, not across from one row to its opposite, which is a great advantage, both to the present year's shoots and the bearing ones made last summer. In many places there is a further advantage by this method, namely, the saving of stakes, for they are not necessary unless the garden is much exposed.

I can confidently recommend this mode of training the Raspberry. Lot all growers that have even a moderately large garden give it a fair trial, and I am certain they will be gratified with the result.

A NEW KIND OF BROCOLI.

In the same garden (Mr. J. Flintham's), I saw, this spring, a new kind of Brocoli, raised by him two years ago. Its parents were *Miller's Dwarf White* and the *Walcheren*, combining the dwarf habit and perfect hardihood of the first, and the colour, firmness, size, and flavour of the latter, with the additional quality of coming in very late; in fact, later than any other Brocoli I know. It will be remembered that Rotherham is considerably north, and Mr. F.'s garden is by no means sheltered; yet he very rarely loses a single plant through the most severe winter.

This variety grows to an enormous size, frequently more than two feet in circumference, and often weighs as much as fourteen pounds, yet remains perfectly close, and of a good pure white colour. Its season is May and June, and there is a good succession, rendering it far superior to *Miller's Dwarf*, which, though a good, hardy, dwarf variety, comes in too much altogether, and is, consequently, soon over, answering well enough for a market-gardener, but not so well for a private garden.

I understand Mr. Flintham intends sending out this new variety next season. The time he will do so will be duly advertised.

A NEW SECOND EARLY PEA.

There is, in the neighbourhood of Sheffield, a place named Park Springs. It is a plot of ground some nine acres in extent. About five years ago this plot was purchased by a few industrious mechanics and others. It is laid out in portions of a quarter of an acre each, and lotted out to the different members. Most of the lots are built upon, some with one cottage, and others with two, and the ground is nicely laid out in cottage gardens. There are good roads, and plenty of excellent

water. The situation is elevated, a moderate distance from Sheffield, and is a very nice place indeed for its occupiers. A Mr. Illingworth has built himself a house on one of the lots, and in his garden I met with a decidedly new second early Pea. It grows about six feet high, and is an extraordinary free bearer. The pods are of a medium size, containing from seven to eight Peas in each. The pod has a peculiarly rough surface, and the Peas are of a rich dark green colour, and most delicious flavour. It is most decidedly an acquisition, and I have persuaded Mr. Illingworth to save the whole, and give the seed to some farmer to raise a good stock.

In the same garden I noticed several plants of the now almost extinct *Tree Onion*, a very curious and strange freak of nature. Instead of producing seeds, there is, on the top of the stem, a bunch of small Onions, which are excellent for pickling. I believe, some time ago, there was, in *THE COTTAGE GARDENER*, an inquiry for this variety. Mr. I. will be happy to send a few bulbs to any person requiring them on the receipt of stamps to pay the postage.

T. APPLEBY.

DRAINING AND MANURING NEW GARDEN GROUND.

A QUESTION being asked about draining and manuring a piece of ground intended for garden and lawn, and the best time and mode of doing both, naturally calls for some consideration, the more especially as on the first of these operations being well done depends much of the after success or failure. One question asked is easily answered—"Which of these undertakings is to be done first?" The draining by all means; and the way in which it is done will have so much effect on the after welfare of the produce, that a little extra expense in the first onset ought not to be denied to a piece of ground which is destined to be both useful and ornamental, and in which it is likely the occupier will feel deeply interested. It is, therefore, imperative to have the first of these jobs done well, and, as it is likely that other works may speedily follow, the sooner the better that is commenced, the more time there will be afterwards for the trenching, manuring, &c., to which it is probable the whole will have to be subjected.

Draining.—The number of treatises that have been written on this subject, independently of the many practical examples most rural districts have presented during the last few years, render it unnecessary here to say much on the general principles of draining; but as it is possible that our correspondent's premises may be of that suburban class around which there may have been but little draining practised, it is right here to point out that the first object to determine is *the outlet*, which ought to be the lowest point on the plot operated on; but some understanding with the neighbouring proprietor is sometimes necessary in order to get the proper depth of fall and other matters. Leaving this, however, to be arranged by those concerned, it is then necessary to set out the drains, the main one being expected to terminate at this lowest point, and the branch drains leading into this main one; but the whole ought to be at least three feet deep, and if the main was six inches more so much the better, care being taken to give each one sufficient fall to carry off the water. As drain pipes are not expensive articles, and the difference in price between a one-inch pipe and a two-inch one not being very much, it would be better not to use any less than one inch and a half, or, it might be, two inches in diameter. This is especially necessary if they have to run more than 150 yards, or if the stratum be sand or gravel, both of which generally contain much water; and do not by any means let the drains be less than three feet deep, and the bottom of a uniform

descent, and just scooped out to receive the drain pipe, the operation being done very skilfully by men who make it their business to follow that calling; and after the pipes are laid in, it is good practice to cover them up with some porous material, taking care, if stones are used, not to throw them in to break the pipes. Usually, there is sufficient of such material on the spot by using the most open portion in the bottom. Be very careful at the junction with the main, and, if possible, let there be a fall at that place, in order to clear the drain.

The distance the drains are apart will depend on circumstances, but for garden and lawn purposes it is better not to be too sparing that way, as it is difficult afterwards to add more. In tillage and pasture ground it is not uncommon to arrange them a rod apart, which is sixteen feet and a half, but sometimes the distance is wider; but for a garden I would not advise it more than a rod, and if less so much the better: wet ground requires the drains still closer. Be very careful in coming in contact with trees, for several kinds send their roots down in'o drains, and speedily fill the largest pipes with a plaited string-work of roots of extraordinary length. Willow, Alder, and Ash are very bad that way. Oak is not so likely to do so; but even annual crops have been known to penetrate a drain; so that it is necessary, in some cases, in passing large trees where the drain cuts the roots, to cut another false drain a little nearer to the tree, in order to separate the roots at that place, and to direct them into the channel there made until the proper drain be consolidated, so as to render it unlikely for the roots to penetrate it. Precautions of this kind are more necessary than is supposed, for I was obliged, the last spring, to have a close socket-jointed pipe drain taken up and relaid. The roots of a tree had got into it in small string-like fibres, and had run up a distance of upwards of sixty feet in places, completely filling up a four-inch pipe with its thong of roots. The amateur ought, therefore, to be careful in preventing this from happening, as draining will be worse than useless when the water does not get away.

When drains run a great length, and parallel to each other, it is very good practice to run a cross one at top, connecting them with each other, and with some openings outside. This is what is called an *air drain*, and whether it be of service or not, it is not an expensive addition; the mouths of its branches might open out in some thicket, or by some wall, or anywhere not likely to get choked up. It is also necessary to observe here, that in wet districts the after comfort of a walk or roadway is much increased by a drain being run in it, and the excavation filled in with stones or rubble. This drain might be apart from the ordinary ground drains, but united with them in its outlet. It would also be advisable, in excavating the ground a few inches for the road metal, to allow the bottom to slope to the drain so as to catch all the water. In filling in drains, it is not advisable to ram them tight; better fill them loosely, and let them settle of themselves, which will be no particular objection in tillage ground, and in turf it is better to have it to take up and relay than destroy the utility of the drain by ramming in impervious clay or other similar substance. In winter, or after heavy rains, the ground falls quickly to near its proper level, but in summer it is more slowly done.

Most workmen accustomed to draining prefer doing it in the winter, but it can be done at all times; and as "Amateur" wishes to proceed with the tillage and manuring of it, he might do it at once, and have the autumn to do his other work. And as he inquires about the manuring as well, we may say, that if his ground is stiff and heavy, it would be well, after draining, to have it trenched, or deeply dug, or ploughed, and if he allows four or five one-horse loads of good lime per acre

it will much improve it. The lime may be laid on after the first rough digging or tronching, and be dug in after, or it may be dug in at the time, keeping it at the top, as lime usually finds its way down pretty easily. More lime than stated above may be given when it can be obtained reasonably, and if it could lie so as to get the benefits of the dry weather we sometimes have in September, it would much improve the ground; but if it could be got ready by that time, I would advise the portion intended for lawn to be sown during that month, and it will likely be green before winter sets in, taking care to level it properly, picking off stones, and removing all obstructions. And as our correspondent wants to know how much manure is necessary per acre, I may say, that thirty good one-horse cart-loads are not too much per acre for garden purposes, and sometimes more than that is used for ploughed ground, but the quality of it and other matters will regulate the quantity; but, in a general way, it is difficult to give too much to poor ground, such as we suppose the plot in question to be, only we may observe, that the portion intended for lawn will not require any; and if the ground be of that black, boggy soil which is often called peat, it is better not to add lime at all, and if it be of an opposite nature, it had better be withheld where Rhododendrons have to be planted, or any other bog plants introduced; but most other things derive advantage from its presence, and the tillage ground works much better in consequence of it being there.

As a descriptive mode of dealing with new ground intended for garden purposes has appeared in one of the late numbers of this paper, it is not necessary to repeat it. The above, probably, will meet the wants of the querist for whom it is intended. It is, therefore, only necessary to say, in conclusion, that such operations as draining, forming of roads and walks, and, in fact, trenching, levelling, and other works of that kind, ought to be done well; for as the after welfare of the whole often depends on these, and it is inconvenient to do it then, it is prudent to have them all done in the best manner at the beginning, and we have no doubt but the result will be satisfactory.

J. ROBSON.

THE DAY OF SMALL THINGS.

By the Authoress of "My Flowers."

Do my readers remember one of my sketches, a long time ago, which I entitled "The Poor Widow?" I am now going to bring the same widow before their notice in another light, and which will recommend and enforce a duty too often neglected, despised, or passed over by those who ought to know better, simply because *little things, little usefulnesses*, seem scarcely worth the trouble of doing: what good can such a trifle do?

Ah, let us remember that wise and ancient saying, "She hath done what she could." Who spake those words? The same lips that spake these also: "Whosoever shall give to drink unto one of these little ones a cup of cold water only in the name of a disciple, verily, I say unto you, he shall in no wise lose his reward."

The poor widow was dwelling in a coal-shed when last I wrote about her, but "a friend indeed," struck with the circumstances narrated, sent the writer a sovereign to be laid out in any way advisable, to add to the poor widow's comfort. This was a gracious gift sent from on high, and it was employed towards the rent of a little cottage, the remainder being made up by another friend. It was, or rather, is, a snug, quiet little spot, very small, and very cold in winter; but still it is a real cottage, and not a coal-shed. The friend who made up her first year's rent met with a loss just after the second year began, but has been enabled still to pay it on, *somehow or other*, as the world would say; and there the poor widow sits in "quietness and confidence," with her Bible before her, and deep-settled peace in her heart. Her anxiety for the bodies and souls

of men continued unabated, and having no home duties to employ her time, she can put the house-key in her pocket, and betake herself, for any time, to do good, as opportunity offers, to those around her.

There is always something to be done for God, and He will send us orders according to our several ability, when *first* He has engaged us in His blessed service.

The spring of 1855 was one of long and excessive rigour, and the poor widow sat shivering and shaking in her chilly cottage, not knowing how she could possibly endure the intensity of the cold; but He to whom she belonged took care of her.

A lady of very small means, who could not venture upon any enterprise, received a small sum of money at that very time; and a wish, that had been almost breaking her heart, was thus put within her power to accomplish. A small soup-kitchen, during the bitter weather, was immediately set on foot, and no one could be so safely trusted as the poor widow; so the lady called, consulted her, told her she could offer no remuneration, except a daily portion of the soup, and then asked her whether she would work for God, and trust Him for payment.

The aged servant of an absent Lord sprang forward like a willing horse to the collar, and joyfully undertook what was to her infirmities fatigue and effort. It was "the day of small things," this poor little soup concern, but it was useful in its way; for many a poor man would stop and buy a basinful of hot nourishing food, and eat it by the fire which was kept going by the cooking process. It was partly a self-supporting affair, or it could not have gone on so long; but, though the applicants were not so numerous as they would have been in a free state, yet it went off as fast as the poor widow, with her aches and pains, could get it ready. Perhaps no one really reaped the benefit so fully as herself; for the fire which was required for the soup kept her completely warm, and the daily portion for her dinner was marrow to her bones, weak as she was, and unable to obtain needful sustenance. The cooking days were sadly "caddling" days to her. The "apparatus" was woefully simple—nothing but a great iron pot lent by a neighbour; and, what with small space, want of *gear*, a smoky chimney, and customers coming in all over snow, and the heat turning it into water and mud, the poor widow was sometimes ready to tear her hair. Still she kept on her kindly way with firm resolution and untiring patience. It was a labour of love, and, in spite of weariness and infirmities, she felt it good to be "the handmaid of the Lord."

With the clear eye of a true believer, she saw how mercifully the Lord had wrought for her in the matter. But for the poor little "soup-kitchen," she would, humanly speaking, have died with cold during that pitiless spring, and with fervent love and adoring gratitude, she traced it all, step by step, to Him, "without whom not a sparrow falleth to the ground unnoticed."

The soup was continued until the open weather came, and the flowers began to appear on the earth. It had been of special service to another, besides the poor widow, of whom I shall speak in my next paper. It is wonderful—no, not wonderful, but blessed and heart-stirring—to mark the dealings of God in His Providences. Nothing is *wonderful* that the Lord has declared shall come to pass. It is only wonderful that we do not expect or believe them. It is wonderful that the declarations of the "High and Holy One" are not accepted, and acted upon, as men's declarations are. Our Queen's Proclamations are attended to, believed, and obeyed; but the Lord God's Proclamations are so lightly considered, and so little trusted in, that we count it "wonderful" when our eyes behold them come to pass!!!

Oh, reader, reader! this should not be.

In my next paper I will set forth the Lord's dealings with a young man, who was, by the instrumentality of the poor little soup-kitchen, brought especially under the notice of the poor widow. My readers have already made his acquaintance in the lad whose arm was broken by a roller, through an act of disobedience, and who grew up in the ways of ungodliness. The "day of small things" is not to be despised, if it brings good to the poorest and vilest of God's creatures. Dear readers, let us sow, if it be but a pennyworth of seed; let us work, if it is but hewing of

wood and drawing of water; let us speak, if it is but weak words, with a stammering tongue, so long as our eyes look unto the Lord, and our aim and end is His glory and the salvation of souls, and *that only*.

LETTUCES IN JANUARY, FEBRUARY, AND MARCH.

"WELL, what of it? why write of it?" says my Lord's or Sir Ronald's gardener; "we are never without Lettuces. What matters it if half are eaten up with snails, or their leaves picked off stems three feet in length, as long as there is enough, and it is Cos Lettuce? Cos, of course, it must be; and, by all means, let it be firm." John Bull likes a durable article, and this leathery affair, coupled with cold roast or lean boiled beef, goodness knows is durable enough; therefore any spare space where little else will grow will do for Lettuces. A capital place is the top of a ridge between Celery trenches, particularly if what little good mould there was has been made use of for the Celery. What a nice, high, dry, airy place, where you can almost hear the sultry wind whistle through in wending its way amongst the lumpy clods. I dare to say the above is no libel on systems I have seen and believe exist to this day; yet many of those that practise the above would be alarmed on being ordered to send in Cabbage Lettuce for salad, for no other reason, I believe, than that their great grandfathers *did not*. Have they not got the chronicles of their forefathers' garden transactions to guide them? Indeed, leaving out market-gardens, I am in the belief that May is the only entire month in the year when, in a general way, good Lettuce is to be found. Far otherwise the German, Dutch, and French: *they* trench deep, manure well, and give the Lettuce the best of ground; and I have seen grown on their systems as good Lettuces in January, February, and March, as I have seen in Covent Garden Market in May and June; not individual plants, but whole ranges of frames with Lettuces, following each other in succession with scarcely a single blank, and really worth looking at; and any one that has a few spare frames, if following the system I am just going to tell, may be equally successful; but they must bear in mind that plants, like children, require careful attention: it will not do to wait till supper-time before you give them their breakfast. Sow thinly about the 20th of August as much seed of the *Dutch Cabbage Lettuce* as you require for January and February, and take care that your frames are ready for the planting on, or as near as possible, the 12th of September. If Melons or Cucumbers have been grown in them previously, all you will require to do is to give the beds a good dressing of leaf or light vegetable mould, fork it over, and mix it well with the soil; get it also in good condition as to moisture, and plant your Lettuces ten inches to one foot apart, using plants that are just showing their rough leaves. Take away all air about the 20th of October, and shade from the time you plant, if the weather is dry and clear, up till November. Birch or dried Yew branches are very suitable for this purpose.

For those you want in March and beginning of April sow about the first week in September, and plant about the 20th of September. Treat them like the above, with this difference—you must contrive, by shaking up the old beds, or otherwise, to give them a little mild bottom-heat.

Pray do not make one sowing do for two. Be also particular in taking away the air about the 20th of October, as the fly is ready at this season to gain a march in case any false step is made; and to those that have never tasted a German or Dutch salad, I say, lose no time in getting the receipt. A fig for any other, say I.—D. FERGUSON, *Stowe, Buckingham*.

TRAPPING EARWIGS AND WOODLICE.

IN these times, when the philosophy of little, or, if you will, common things is fortunately being impressed upon gentle minds, and even now, while the old Scottish axiom of "every little makes a muckle" occurs to my own, I, without loss of time, write to inform you after what manner a wholesale destruction of those little pests yelegt earwigs and woodlice can be brought about by a most

simple and natural means, humane withal; for the deprivation of life, even in an insect, should ever engage our feelings to dictate an alleviation of animal suffering.

I always grow a few of that noble-looking plant, the *Heracleum giganteum*, and this year, when I cut them down after their flowering, I observed that the junction of the leaves with the stem served as a harbour for earwigs, &c., and the thought instantly struck me, what capital traps for such gentry the inside cavity of the stems might prove. I acted simultaneously with the thought by cutting the stalks into lengths, ending about an inch and a half *above* every joint. I spread them in the sun to become thoroughly dried and light as a chip, at which state they arrived in about a fortnight. A score of these tubes offered their services, and I charge them with broad bean or any other leaves; I strip two or three leaves from the bean-haulm, and enter them altogether baseways and lengthways at the joint ends of the tubes, which darkens that end of the orifice, and causes a cover for the insects to nestle amongst; I then place the tubes slantingly in the forks, or at the bases of the standard and wall-fruit trees, and more particularly amongst Dahlias, or prostrate them along the ground under an old hedge, or anywhere, in fact, where the insects are wont to prowl to seek for their livelihood or shelter; and the result soon convinces that there are few better traps than these on the roll of contrivances for the purpose. My first inspection was made on a tube I placed at the base of one of my bee-hive pedestals, when, upon drawing out the leaves, a dozen fat earwigs caused me to exert considerable alacrity to despatch them, which made me think twice before I interfered with the remainder. I caused a kettle of water to boil, then poured it into a pail, and along with that I soon went the round of the tubes, shaking both leaves and insects into the hot water, which immediately gave them their *quietus*. By this means I destroy a great number daily, and they must soon, one would think, become exterminated. There is an old Yew hedge, with rotten stumps, running the length of this garden, and the quantity of woodlice these tubes entrap there is astonishing, and is hopeful for my Polyanthuses next spring. Recharge each time with fresh leaves, and replace the tubes, and many a Dahlia fancier may silently thank me for the hint; likewise, they may brush a coat of green paint over the outside of the tubes for durability and appearance's sake.

And the Rector said, "Cast those dead corpses into the poultry-yard for the fowls to devour;" and did they not do it?—UPWARDS AND ONWARDS.

NEW PLANTS.

CALCEOLARIA VIOLACEA (Pale purple Calceolaria).—This has also been called *Bæa violacea*, but is now placed in a very peculiar section of Calceolaria, named "Jovellana," of which section the New Zealand species, *C. Sinclairii*, is a member. It is a greenhouse plant, blooming in May and June, and native of Chili, near Valparaiso and Concepcion. —(*Botanical Magazine*, t. 4929.)

RHODODENDRON BLANDFORDIIFLORUM (Blandfordia-flowered Rhododendron).—This is one of Dr. Hooker's discoveries. He found it at from 10,000 to 12,000 feet in the Eastern Nepal and Sikkim Himalaya Mountains. It is a slender, straggling shrub, eight feet high; flowers scarlet and yellow, but very variable in form. —(*Ibid.* t. 4930.)

RHODODENDRON CAMELLIIFLORUM (Camellia-flowered Rhododendron).—This was also discovered by Dr. Hooker at an elevation of from 9,000 to 12,000 feet in the Pine forests of East Nepal and Sikkim, and in the mountains of Bhotan by the late Mr. Griffiths. It usually grew as an epiphyte on lofty trees; but in more open parts of the forests it grew in the soil and on rocks. It has been sometimes called *R. theaeiflorum*. Its flowers are white, tinged with pink. —(*Ibid.* t. 4931.)

HETEROTROPA ASAROIDES (Asarum-like Heterotropa).—This was introduced as long since as 1839, but was lost, and is now re-introduced. A bad figure of it was given in *Bot. Mag.* t. 3746, but the present figure is very good. It is closely, or, as Sir W. Hooker says, "too nearly allied" to *Asarum*; indeed, Thunberg named it *Asarum Virginicum*, and it is included under that name in *THE COTTAGE*

GARDENERS' DICTIONARY. It has been treated as a greenhouse plant; "but it is quite likely that it will bear our winters in the open air." It flowers in April and May. Its flowers are lurid purple and green; but its variegated leaves, dark green, very regularly mottled with a paler green, are its chief attraction.—(*Ibid.* t. 4932.)

AGAVE CELSI (Cels's Agave).—This has never been described before, though received many years since from M. Cels, of Paris. It is supposed to be a native of Mexico. It is a fine species, with extremely glaucous leaves, "more resembling those of some *Aloe* than an *Agave*." It flowered for the first time at Kew in May and June of this year. Its flowers are green, and in a head, resembling that of a gigantic Plantain (*Plantago*).—(*Ibid.* t. 4931.)

MESSRS. EDWARDS' GARDEN TALLIES.

Your paper of the 29th ult. contained a letter from Mr. Lucas, of Louth, complaining of our conduct as traders.

We should not have noticed his incoherent remarks; but as you have appended to his letter some editorial comments, the matter calls for a few observations from us.

Mr. Lucas's complaint, divested of all verbiage, amounts to this,—That having sent for, and received from us, samples of our "tallies," which were satisfactory; and having seen our advertisement descriptive of their sizes, &c., he was induced to order ten shillings' worth; that when received they were unsatisfactory; that he wrote a letter of complaint, to which we did not reply; that he wrote again, and was offered his money back. Of all these allegations, no one is true except the last.

Mr. Lucas states that the samples sent "were satisfactory;" yet in his letter ordering the tallies he says, "I hope they will be stiffer than the samples." Surely, if this means anything, it means that the samples were *not* satisfactory.

His next point is, that he was led from the advertisement to expect tallies of a given number to the inch, or he should not have ordered them. Now, the fact is, that at the time he sent us the order *he had never seen our advertisement descriptive of the sizes of the tallies*, as it was published for the first time in your paper of May 6th,—the very day on which he sent the order, and, under the most favourable circumstances, could not have reached him in Louth until the following day.

The next charge is, that he wrote a letter of complaint, and received no reply. Whether or not this is intentionally untrue we do not know; but we do know that we sent a letter, of which the following is an exact copy:—

"Birmingham, June 27th, 1856.

"SIR,—Replying to your letter of the 25th inst., inquiring 'what you are to do' in respect of some tallies sent you a few weeks ago, we can only ask, What you wish *us* to do?"

"We are, Sir, your obedient Servants,

"E. EDWARDS AND CO."

A few days after the despatch of this communication we received a very long and angry letter from Mr. Lucas, the greater part of which was taken up by a history of some two or three transactions in which he had been swindled by persons to whom he had sent money, and from whom he had received nothing in return; the interesting statement concluding by classing us with those nameless persons as cheats, and threatening, unless we apologised or otherwise appeased his wrath "by Monday next," to hold us up to the indignation of the world. Well, we found we had for our correspondent that intensely-interesting creature, a man nursing his grievances, and we thought the best and shortest way of settling the matter was to offer the man his money back. This we did in the exact terms he has published, and *we are not ashamed of it*.

In taking leave of Mr. Lucas and of this subject (for we shall take no further notice of either), we beg most distinctly to state that the samples were taken indiscriminately from the mass of stock; that the machine is so constructed that the tallies cannot vary (though, from being cut while the wood is saturated with water, they will shrink a little when put into a dry place); and that, consequently, they *must* have been the same as the sample. We have sold some hundreds of thousands, having supplied them to hun-

dreds of persons in all parts of the kingdom; and we only remember to have received three complaints: one person, by mistake, had only half the proper quantity sent to him, and we made up the amount by sending him postage stamps for the deficient quantity; another sent ten-pence, from Scotland, for 500 tallies, to be enclosed through a friend of his in Birmingham, and he afterwards wrote to say there were *four* tallies short of his proper number! and the third is our friend Mr. Lucas, with regard to whom our only difficulty is to know under which head of his own category to class him—the "*innocent*" or the "*unprincipled*."

E. EDWARDS AND CO., Birmingham.

P.S.—Mr. Lucas's letters can be seen here by any person who may feel sufficient interest in the subject to induce him to take the trouble of verifying our statements.

SONERILA ORBICULATA.



Sonerila orbiculata.

This genus is of the Natural Order of *Melastomads* (*Melastomaceæ*), and of *Octandria Monogynia* in the Linnæan System.

Received from, and communicated by Dr. Royle, May 15, 1852, from the Nilgherry Mountains of India.

Stems branched, a foot high, brittle, purplish towards the

upper end, clothed with weak scattered hairs. Leaves nearly round, slightly pointed, flat, as long as their foot-stalks, with fine hair-pointed serratures, seven-ribbed when perfect, but with not more than three ribs on the uppermost pair. Peduncle about three inches long, more than twice as long as the uppermost internodes, quite erect, terminated by a simple cyne, consisting of one central flower and a pair of four-flowered arms. Calyx-tube oblong, slightly prismatical, closely covered with stiff white hairs. Petals oval, apiculate, bright rose colour.

This very distinct species differs from those previously described in the remarkably circular form of its leaves. From *S. Brunonis*, to which it comes nearest, it is also distinguished by its flower-stalk being much lengthened out, the calyx shaggy, not smooth, and the flowers rose-coloured, not blue.

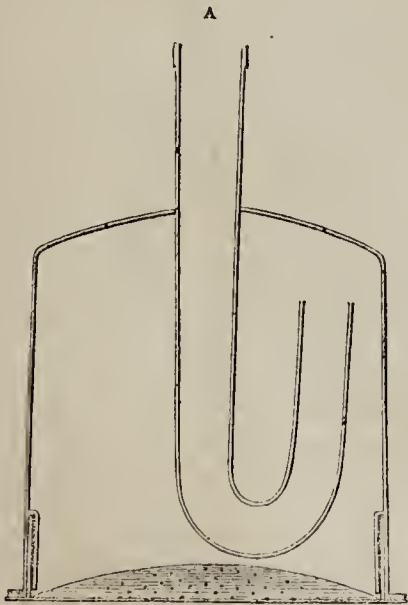
It is a small fleshy-rooted perennial, requiring to be treated like *Achimenes* and similar fleshy-rooted plants—that is to say, to be grown in a mixture of sandy loam, peat, and leaf-mould, in the stove. It is increased by cuttings or pieces of the roots, placed in sand in the usual way. When the plants have done flowering, they should be kept rather dry and rested.

The species forms a very handsome and neat little bush, flowering freely in the stove in November and December.—(*Horticultural Society's Journal*.)

NOTE ON A NEW SULPHURATOR.

BY ROBERT THOMPSON.

THE Vine mildew having become so universally prevalent, and sulphur proving the best remedy, various contrivances for distributing this substance have, in consequence, been brought forward. One of the most recent is called "Egginton's Sulphurator," of which the accompanying figure is a representation.



The instrument was made by Mr. Edward Egginton, of Ludlow, under the direction of Mr. Corbett, gardener at Downton Castle. It consists of a copper cylindrical box, about $4\frac{1}{2}$ inches diameter at the base, and 4 inches diameter at the top; the height being also 4 inches. A copper tube, A, 8-tenths-of-an-inch diameter, enters the top, extends nearly to the bottom, and is then bent upwards to within an inch of the top. The bottom is flat, perforated like a tolerably fine rose of a watering-pot, and may be removed when sulphur is required to be put inside the box. In order to keep the sulphur suspended throughout the interior, a quantity of chopped wing-feathers of a goose are introduced; they are cut to about inch lengths. The tube extends about two inches outside the top, and can be fixed upon the nozzle of a common bellows.

It was tried in the Society's Garden, and was found to answer very well. The sulphur is finely diffused, so that the whole atmosphere of the house is thoroughly impregnated, without a great quantity of sulphur being used. In this respect it is surpassed by none that have come under the notice of the Society.

When a stream of flowers of sulphur is required to be directed against any particular spot, the French sulphurator has the advantage; but when the whole atmosphere of a Vinery is intended to be impregnated with the minute particles of flowers of sulphur, Egginton's sulphurator is preferable.—(*Horticultural Society's Journal*.)

THE SUBURBAN VILLA AND COUNTRY RESIDENCE.

NO XII.

HARMONY.—CONTRAST.—VARIETY.

A GARDEN may possess all the elements of perfection, but the various objects composing it may be so distributed, that the general keeping (I use the term in an artistic sense) may be wholly destroyed, or it may have blended in its composition objects that cannot be appropriately mixed up in the general design. Both these conditions are of frequent occurrence.

In designing an entirely new garden, having determined on the various objects and features of which it is to be composed, the great consideration is to place them in appropriate situations, and then to blend them into one harmonious design. A garden may consist of little besides the most simple elements, as shrubs, flowers, a gravel-walk or two, and some open spaces of lawn, and these of the most ordinary character; or, besides an elaborate combination of these, it may be highly ornamented with statuary, fountains, buildings, &c. Now, presuming the general design of a garden to be good, if the ornaments, the accessories, are misplaced, the good effect will be much injured, and will, to a correct judgment, which is nearly synonymous with good taste, seem a painful rather than a pleasing scene. A piece of music that will charm the most correct ear may be composed of the same notes as another piece that shall be harsh and disagreeable, though both may be performed with equal and first-rate ability. So, likewise, two pictures having precisely corresponding figures, but ill-arranged in one, and artistically in the other, will, accordingly, elicit widely different opinions as regards their merits; though, as far as mechanical execution goes, they may be equal. In these illustrations arrangement is everything. So, also, in gardening, the materials may be chosen with excellent judgment, but the arrangements may be, nevertheless, faulty.

If I were writing an elaborate treatise on these subjects, the conditions, or qualities, expressed by the words at the head of this section, viz., Harmony, Contrast, and Variety, would each demand a separate inquiry, and admit of many sub-divisions. I now, however, merely allude to them in a cursory manner, adding a practical illustration or two of their violation. If they are considered separately, as well as in connection, it will be seen that, in reality, they express different conditions of the same general quality. Thus, Harmony, in a garden sense, signifies a general relation of things to each other; Contrast, the idea of pleasing variety with the absence of all incongruity, a condition of things from which all that could destroy the unity, the general relationship, is absent; and Variety, while it introduces widely different scenes and objects, does so under the guidance of the first quality—Harmony. Thus the three words are here intended to express a condition of things in a garden, which, in a picture, is denominated *keeping*.

Some time since I had the pleasure of being shown round the grounds of a princely mansion, which are deservedly held in high estimation for the general excellence of their arrangements. There was, indeed, much to admire. Independent of the beauty of their design, every part was in the highest possible order, and the shrubs and flowers were of the choicest kinds; but the effect of one of the most beautiful scenes was in great part destroyed by the

introduction of two exceedingly rustic buildings — beehouses, I think, of the most common-place design, and having ordinary thatched roofs. Why they were placed amid so much that bore the highest polish of art, I will not attempt to explain. Certain it is, their presence was objectionable in the superlative degree. They were entirely out of character with everything around them. Of course, buildings might have been appropriately placed there, but they should have been in harmony with the scene of which they were to form a part. Contrast is a desirable element in garden scenery, but care must be taken that it does not degenerate into mere harshness and incongruity. Had these rustic buildings been isolated from the general scene, and rendered detached objects, or associated with scenes of a consonant character, they would not only have been tolerated, but, with a little improvement in style, could have been rendered highly appropriate and interesting.

It must be borne in mind that any given object may be in itself exceedingly beautiful, but that it may become either worthy of our admiration or our censure entirely from the position which it may happen to occupy.

In the Victoria Park there is (or at least there was a year or two ago, and I will presume it still remains) a Chinese temple. It occupies a most prominent position, and is, of course, a conspicuous object from very many situations in the park. Now, its style is entirely at variance with everything around; it is conspicuous in its isolation, and as such, is, as I think, an incongruity. If a Chinese temple, or any other extravagance, is admitted into scenery (and there is no reason why, under proper subjection, it should not), by all means place it in a retired position, not thrust it forward.

Another illustration of this position. No one will deny that a Weeping Willow is a beautiful object; yet it is certainly more beautiful when bending over a stream or pool of water than in any other situation. Wherever we see this tree, we immediately associate with it the idea of dampness, of water; and on this principle I hold it to be out of place on the lawn of a pleasure ground, if at a distance from water. In such a position I would never introduce it, superlatively beautiful though it unquestionably is in itself.

An artificial object, as a building, for instance, may be too important for its position. It may assume a degree of dignity, when, perhaps, its real office is a very humble one, or, perhaps, it has no office at all. A thing should in some degree seem to be what it is. This axiom requires considerable qualification, but it is a safe principle for guidance; it should be appropriate to its position and uses, and nothing more. It may, of course, be ornamented, but not so as to disguise its real object. If this be true, what shall we say of the railings in front of the British Museum? I make the allusion in all humility, but I cannot refrain from observing, that those very railings appear to me to be one of the most conspicuous examples of bad taste in the metropolis; not in the railings themselves, but in being worse than useless in forming a screen where no screen is required.

This giving to an object an appearance entirely at variance with its true character and uses is productive of very many absurdities, not only in architecture, as far as it relates to gardening, but in many other arts also. I conceive that every building may be rendered pleasing in itself, and judiciously ornamented in character with its professed uses; and that to dress it in a borrowed garb, in direct opposition to that character, is, as a principle, in false taste. If it be desired to build a dairy, or a cottage, which shall be ornamental in themselves, why make a castle of one, and a mimic church of the other? And so of many other buildings.

Not far from London there is an estate, the home grounds of which possess many attractive features, both natural and artificial. There is, however, one absurdity of the first class which, as illustrative of the preceding remarks, I will briefly describe. As you approach the mansion by the carriage-road you catch a glimpse of a church-spire, or, at least, what you believe to be one, pointing above the trees a few hundred yards distant. The natural conclusion, of course, is that, as in numerous other instances, a church has been erected upon the domain for the use of the proprietor, his dependents, and neighbours. In making a tour of the

grounds, a visitor would naturally direct his steps towards it. Its presence in the landscape gives birth to associations which, though perhaps of a melancholy character, are, nevertheless, pleasing, and the mind derives a large amount of pleasure from such associations. Well, upon arriving at what is supposed to be a church, you find yourself in a farm-yard, surrounded by all necessary characteristics, and the church, a barn ornamented, or disfigured, by an imitation church spire. Disgusted with the imposition, you turn with contempt from what would otherwise be a pleasing and interesting sight.

All such absurdities should be studiously avoided. There should be no attempt at trickery, either in the park or in the comparatively limited boundary of the garden. Variety and contrast can be effectually secured without such aids. Sudden changes from one character of scenery to another; detached objects of a pleasing nature, enshrined, as it were, in some little domain of their own, subordinate, yet forming an integral part; a walk carried to some eminence, from whence a distant and pleasing view can be obtained, and anon leading through an overhanging canopy of foliage, are a few of the many modes in which variety in garden scenery may be obtained. No garden is too small to admit some of them. Contrast and variety should be prime elements in garden scenery, but they must never be obtained at the expense of unity of design, of harmony of parts to the whole, and, lastly, of convenience.

There is yet another quality demanding a passing notice. It is one which exercises a powerful effect upon the mind, and from which, in fact, a large, if not the largest, share of our mental pleasures are derived; I mean the pleasure of association. It may be thought that this can scarcely demand attention in designing a garden. Very often it need not; but, on the contrary, very many instances do occur in which it should be recognised, and when it would be unpardonable to neglect it, even at the sacrifice of some other important, though, in comparison, minor matter.

In remodelling old gardens, or in forming a new one, any object or scene to which pleasing or valued associations are attached should be brought prominently into notice, or otherwise preserved, according as the nature of the object, and the event of which it is commemorative, may demand. Many an otherwise ordinary scene or object will derive importance from associations connected with it. The value of such associations may be confined to private individuals, or they may be of national importance; in either case they are equally of consequence as sources of mental gratification. As belonging to the former class of associations, one example forcibly occurs to me. On the banks of a beautiful artificial lake in a park in Leicestershire the visitor finds a stone seat, having two hands clasped carved on the back. Here two attached friends separated, when one of them was about to make a journey of some duration. They never met again. When death had arrested the wanderer, this scene where the parting took place became at once hallowed ground to the survivor; for him a thousand pleasing though sad associations will ever cling around the spot, even though the monument itself shall have crumbled into dust.—GEORGE LOVELL, *Landscape Gardener, Bagshot.*

GRAND CAIRO—HALIM PASHA'S GARDENS.

WE visited the gardens of the Harem of Halim Pasha, brother of Said Pasha, governor of Egypt—a ride of three miles from Cairo—through an umbrageous avenue of sycamores, forming an arcade all the way, and certainly we required it, as the sun was blazing hot and approaching his zenith. We now entered, and a scene of cultivated grandeur burst upon our sight, and the odour of the orange-blossom scented the passing zephyrs, while trees laden with ripe lemons, apricots, oranges, and nectarines, glittered in the sun.

Having with us a dragoman in his Eastern livery as *cicerone*, he led us to a fine pavilion, where we enjoyed awhile the cooling breeze before we proceeded along the countless walks of this luxurious paradise, which contains eighty acres. All was beauty and enchantment. The shadowy walks, the clustering trees, the varied flowers, and the delicious shrubberies, thickened as we approached, and

the birds above sang anthems to their praise. Pavilion after pavilion arose, furnished in the most superb style, with windows stained in every hue and design, and draped with ample curtains and painted blinds in all the excellence of high art. The walks are generally composed of pebbles stuck artistically in cement, decorated with designs in white and black, which feel most comfortable to the feet and grateful to the eye; and in looking over their rich green borders, the earth was strewn with fallen fruit, such as we observe in orchards at home in autumn, but of a very different kind; and occasionally heaps of lemons gathered together similar to the manner we gather our potatoes into bins in Britain. Not being altogether skilled in botany, it is impossible for me to give the names of trees and flowers indigenous to this climate, and highly cultivated and preserved by many skilful hands. There is no necessity here for conservatories, the whole extensive *parterre* being a natural hothouse of itself. In the centres of the converging avenues are water-spouts and fountains, with pavilions seated round, while other walks lead to terraces of great height, reached by capacious stairs, with openings in the balustrades for landing on each terrace, where streams of water rush along both for coolness and irrigation, and along the margins of which grow the rarest flowers and fruit-trees. All this was the great conception of the ingenious Mahomed Ali, the deceased father of the present Pasha.

We now come to an extensive quadrangular building, the outside of which scarcely gives an idea of the grandeur within, and ascending a flight of marble stairs, a massive gate is opened, and an enchanted palace bursts upon the eye. This marvellously grand *elysium* is called the "Fountain," and all the peerless beauty of the East seems concentrated here. The centre is open to the sunlit sky, with a marble promenade all round the sides, 300 feet in length, and about 50 in breadth, covered with a highly-ornamented verandah supported on 200 Italian carved marble pillars of 20 feet high, each formed of one stone. Great marble bowers, surrounded with solid marble borders, are laid out like drawing-rooms, one in each centre of quadrangle, furnished with divans and ottomans of the most sumptuous order, and in the rarest styles of foreign design. Inside of this vast edifice, and open to the sun, is a lake with a great centre, double balustraded and decorated with vases full of flowers, where, with little skiffs, you may row over and pace the extensive floor of this artificial island, so elegant in structure; while all around the canopied promenade, windows unglazed, but grated with fanciful bars resembling panes, let in the balmy air that wafts in gentleness the garden odours around you. In each corner circled off are also suites of rooms, which the keepers open to show you. The first we entered dazzled our eyes and excited our imagination, for the perfection, the grandeur, the wealth, the art in all departments, almost exceeded belief; and as we proceeded to the other three, amazement still increased.

It is said the decorative art of window-staining is lost, but here the flattest contradiction is given by ocular demonstration. The richness of the colours, the chasteness of combination, the *chiaro-scuro*, the designs and workmanship, are as much alive, and even more resplendent, than in the mediæval times. The blinds, also, are in colour and design equal to the finest paintings. Then come the amply draped and fringed curtains of damask satin, white, and purple, and anon the furniture and ornamental damask divans and ottomans, and sofas and chairs of rare value; while the roofs and walls are sparkling with inlaid gold and green, and the crystal chandeliers hung with precious stones of various size, shape, and colour. The mirrors are also fine, and one of the floors of mosaic-laid wood polished to the transparency of plate glass, while round and round stand lofty candelabra in massive columns, coloured to imitate the ruby or auber, and tables with centres of inlaid beauty, and hearts of the purest marble. Words cannot fully express what the eye perceives in such elaborated repositories of wealth, art, and magnificence.

Those beautiful gardens and palaces are for the summer enjoyment of Hahm Pasha and the ladies of the *seraglio*, who generally frequent them on Fridays, when the gates are closed to travellers and the public.

ANDREW PARK.

[The above is from the "Note Book" of Mr. Andrew Park, the Scottish poet.]

BOULE DE NEIGE GERANIUM AS A BEDDER.

I VENTURE to inform you that your correspondent in last week's COTTAGE GARDENER is wrong in saying that *Boule de Neige* will not do out-of-doors. I have part of a bed planted with it and *Triomphe du Mont Rouge*, and both sorts have done as well as common *Scarlets*. Messrs. Kinghorn and Pennycook were much pleased on seeing both varieties doing so well, as they had been informed that neither sort would flower well planted out. My cuttings of both sorts are struck, and potted off. My German and China *Asters* are as fine as ever, although I have not had fresh seed for four years.—A SUBSCRIBER, *Cain Lodge, Twickenham*.

BEE'S SWARMING WITHOUT A QUEEN.

IN reply to "*A Kilkenny Subscriber*," in your number of the 5th instant, your apiarian correspondent, J. W., says—"When your bees attempted twice to swarm there could be no queens with them, otherwise they would not have returned to the hive." This is a doctrine which, I believe, is supported by no evidence; and we know, on the contrary, that swarms with a queen very often return to the parent hive, and issue again, sometimes on the same day, unless the queen bee is unable to fly, when she may occasionally be picked up from the ground, as I have witnessed. The theory of bees swarming without a queen is a novel one, which I must disbelieve till certain proof is afforded of its truth.—AN OLD BEE-MASTER.

[We shall be glad to hear from you more frequently on the subject of bees.—ED. C. G.]

QUERIES AND ANSWERS.

GARDENING.

BANISHING ANTS.

"Can you, or any of your correspondents, inform me how to get rid of ants, with which I am much troubled in my Melon-pit?—R. C. L."

[A contemporary says that stirring up the ants' nest, and sprinkling over it a little genuine guano, drives them away effectually. This is worthy of a trial. If it proves effectual, or if it does not, try also a similar stirring and a watering with the ammoniacal liquor of the gas-works.]

SEEDLING FROM MANGLES'S VARIEGATED GERANIUM.

"After many attempts and failures I have at length succeeded in obtaining a seedling from Mangles's Variegated Geranium. It is at present entirely green; the flower is larger, and of a brighter colour than the parent. I am now puzzled what to cross it with, but think of using the pollen of the parent. Your advice through the medium of THE COTTAGE GARDENER, or otherwise, would oblige an old hybridiser.

"Last winter I found a plant of the common Lamb's Tongue, every leaf of which is beautifully striped like the Ribbon Grass, and continues so now. I have saved the seed.—R. E."

[Just what we expected. We once possessed the same offspring, and had a bed of it three years running, and had two generations between it and its parent. We could not force a cross between it and the variegated form, or any of the kinds then in cultivation; and owing to its large leaves, and its free disposition to seed in the bed, we gave it up. But there may be a trifling difference in your plant, on account of its parent, and that parent is the only one with which it is likely to cross.

What is *Lamb's Tongue*? We never heard the name before. Few variegated plants come true from seeds, and it is fifty to one against any of your seedlings doing so.]

CALYSTEGIA PUBESCENS.

"I should feel much obliged if, through your useful paper, you would give me a list of climbing plants which

blossom freely, and the colours of them. I want them to trail up wire stands in the house. Some of the stands are fan-shaped, others round.

"I have a bed of the *Calystegia pubescens*, mentioned in THE COTTAGE GARDENER of July 3rd. Is it a rare flower? It is now in full blossom, but does not make show enough for a border by itself. It does not seem to require any attention, and stands a winter out-of-doors, though in rather a damp situation.—SIBYL."

[The nations of the earth will learn wisdom ere individuals will learn to tell us what they really do want, and such want of clear detail puts us to a considerable weekly expense. Do you need a list for a hothouse, greenhouse, or dwelling-house? We are not Sibyls.]

Calystegia pubescens is not rare, but it requires great attention, as you will find out soon enough. The greatest attention will hardly keep its roots from spreading in all directions, and its tops from smothering every other plant within its reach. It is only worth growing where no other plant would—say, in front of rough shrubberies in large masses, and to be allowed to insinuate itself among the branches like the rest of the family. How odd it is that public taste has not yet been called to the single form of this plant, which is really a fine thing.]

DIVISION FENCE OF ROSES.

"I wish to make a wire fence between two portions of my garden, and train some Roses along the fence. Could THE COTTAGE GARDENER advise me which kind would be most suitable both for screening the portion I wish separated, and also continuing green in winter? Does the *Rosa sempervirens* stand the frost sufficiently? and if so, which kinds are best? Would *Félicité Perpétuelle* or *Myrianthes* do?—ALDFORD RECTORY."

[Both the *Perpétuelle* and *Myrianthes* are well suited for your purpose, and add *Princess Maria* and *Princess Louise* to them, and you have the best of the *Sempervirens*; and if you plant a row of *Gloire de Rosamène* on its own roots, to stand between the climbing ones, but in the same line, and a row of the *Malmaison* Rose in front of all, and to be cut down to the surface of the ground every second year, and the *Rosamène* the same every third year, you will have the best division line of Roses in that part of the country. Let the ground be trenched full three feet deep and four feet wide, when the weather is very dry next month, and in October have it heavily dunged and dug over again, the object being to get the Roses to start with full vigour the first season, and see that none of the plants were ever in pots. If they were you will be disappointed after all you can do.]

ROSES ON A WALL.

"I have a wall facing east, about eight feet high, covered with Roses, but they are not satisfactory; they are straggling and dirty, and do not cover the wall as they ought. Will you kindly tell me how to make a wall gay and beautiful with Roses? I live in Lancashire, where our climate is rather against us, but I am sure glorious Roses might be grown here, if only one knew how.—MARIA."

[The secret of growing Roses against a wall might be packed in a lady's thimble. A two feet deep border of strong loam, four or five feet wide, to be as rich as rotten dung can make it; the border to be thoroughly soaked with soft pond-water twice a week in dry weather, and when the Roses are in bloom, to keep them thin in the branches, as if they were Peach-trees, and to play the water-engine against them as for a house on fire, from the first appearance of insects till no more come. There is a reason for everything under the sun, and the reason for insects attacking Roses in general, and those on walls more particularly, is from too much dryness at the roots, causing the juices to be more palatable through the action of the leaves.]

GERANIUM CUTTINGS.—SAND FOR POTTING.

"Mr. Beaton says in THE COTTAGE GARDENER (Vol. VI., page 148), that 'all Geranium cuttings (to the end of July at least) do better planted out in the open ground, and full

in the sun, and that it is a great mistake to consider Fancy Geraniums more delicate or less strong than the old sorts.' In the fourth volume, page 274, he says, the best way is to 'put the cuttings under a north wall,' still in the open air; and in the DICTIONARY it is desired to cover and shade them. I am about putting out my cuttings, and, being so close to the end of July, should be very glad to know by what directions I should go.

"Will you also kindly tell me what is meant by 'silver sand,' so much recommended? I can get sea sand, or sand from a common gravel-pit, or what is called rabbit sand from dry banks. Are any of these silver sand? or will they answer for cuttings? Is sea sand good for flowers? What quantity and strength of guano-water ought I to give my autumnal Roses?—JANE."

[The reason why Mr. Beaton recommended behind a wall for cuttings of Fancy Pelargoniums in Vol. IV., was, that they were new to him then, and, consequently, that he did not know so much about them as he now does. The reason for what the DICTIONARY says is this—that shading is the surest way to save them, but it does not follow that it is the best way for the plants next winter. Mr. Beaton tells us that he never shades a Geranium cutting in the autumn, and that he puts them in the open air till the end of August, as being the best way for them, and the least trouble to himself.]

Any sand which is as white as silver plate or coin is called silver sand, but, in nine cases out of ten, any gritty sand or "sharp" sand from a pit will do, and so will sea sand for mixing with earth out-of-doors and out of pots. It is not safe to mix sea sand for many pot-flowers, but some like it better than silver sand. Guano is only fit to be used by cautious gardeners; the "quantity" and the "strength" no one can tell without a chemical analysis.]

FLOWERS OF BRUGMANSIA SUAVEOLENS DECAYING.

"I have a fine plant of *Brugmansia suaveolens* in my greenhouse, which has borne several very large flowers, but the inner tube does not come down as it ought. After the first tube attaining its full size I observed the inner one folded up, as it were, in the throat of the first; but instead of elongating and showing the stamens, the flower commenced damping off in the tube; and on cutting it open the inner tube appeared quite rotten; consequently, the flowers only lasted about three days, and were not nearly so fragrant as I expected. The greenhouse had been closed at night, and full of moist air, the gardener thinking this would benefit the plants; but I have had all the lights left open lately, and also had a pan removed which I found had been placed under the *Brugmansia*. I fancy it may not get sufficient sun, a blind being over the greenhouse all the middle of the day. I have a glass verandah open to the south: would that suit it better?—FLORA."

[Your glass verandah open to the south would suit the *Brugmansia* better than a shaded, moist greenhouse; but you must choose a dull day for removing it. The more sun it has the better it will flower; but it will be a rare drinker, and short commons will cause the flowers to drop. We think the shade and the damp were too much for it. At such seasons as the present greenhouses are left open night and day. Of course, if your gardener had stove or tropical plants there he wished to grow, his treatment was quite correct, and so it would be for even greenhouse plants if mere growth or elongation, instead of flowering, were the object. In the case mentioned we consider your judgment quite correct. We have not at present the *Suaveolens*, but we have the double (*Knightii*, we believe) blooming nicely, planted in the open air, and *B. lutea* and *atro-sanguinea* beside it. Even planted out they must have the water-pail in hot weather pretty frequently.]

TO CORRESPONDENTS.

VINES AND PINES TOGETHER (*An Amateur*).—In another year we would advise, in addition to washing the Vine stems with a paint, of which sulphur forms a part, to paint the pipes frequently, after forcing has commenced, with flowers of sulphur and water, and to give plenty of

air, and more especially, unless the weather was extra severe, to leave a little air at night. The Pine-pits will not cause too much moisture for the Vines growing and swelling. Moisture must be moderated as they ripen. Air must be given when there is great heat, and that will prevent the atmosphere being too much moderated. Whenever houses are crammed so full with flowering plants, &c., there must be increased attention to cleanliness and fresh air, as decomposing leaves and a close, moist atmosphere, long continued, are great encouragements to all sorts of fungus. We have had our houses continually filled with successions of all sorts of plants, and, by the precautions specified, have seen little or nothing of the mildew.

FLOWER-BEDS IN A HOLLOW (*An Old Subscriber*).—To make flower-beds "in a hollow of perfectly hard, strong clay" is about as daft a thing as ever entered into the head of a person out of a madhouse. Unless you can carry a main drain from the very bottom of the deepest bed, and a working drain from the bottom of every bed to the main, our word for it, all the civil engineering in the kingdom will not establish a flower-garden in that same hollow; but if you can get rid of water as it comes, clay is the best sides for a bed, and six inches of rough coal-ashes, rammed hard, is the best bottom for a flower-bed on such clay. The best and newest thing in London for edging beds are "Hogg's tiles," which are advertised in our columns, and they have all sorts of wire edgings here and in Paris for such work; but we do not see the use of them, or your meaning for "edging small beds cut in turf." Do you mean the soil to be under or above the level of the turf? If the latter, you are in the pincushions, and we have arranged for their edgings at once. You ask, "Would fine gravel or turf answer best for the narrow paths?" Gravel is best for all narrow paths. It is such a bother to keep narrow strips of grass tidy; it is very expensive, too, to have them cut and swept once a week.

COCOA-NUT REFUSE (*A. L.*).—It is to be had at the "Oil-mills," Kingston.

SEED FROM NEW YORK—LOASA (*A Cottage Gardener*).—The seeds from New York are those of some native *Hibiscus*—very likely the "Mallow Rose," *Hibiscus moscheutos*, a showy, hardy plant. Some New Yorker will be good enough to send us the proper scientific name of their *Cypress Vine* when he sees this; for no class of men out of this "tight little island" are more benefited by **THE COTTAGE GARDENER** than the American nurserymen. The sting of the *Loasa* is really very dangerous to some delicate constitutions; but what the stinging property is has never been investigated that we know of. You say, "the nurserymen here do not know" the annual in question. Do you really mean to say that any nurserymen do not know *Platystemon Californicum*, which you inclosed to us? or do you live on the other side of the moon, or where? And how can we give a list of *Roses* without a clue to what place the *Roses* are to be removed?

CHINESE TREE (*S. W.*, *Guernsey*).—We have seen the tree and fruit you ask about in Chinese drawings, and we have sent the leaf to a person who has been long in China with all we know of it, and we shall soon here what it is, and what the name.

GIRLS' SCHOOL (*Rev. R. F.*).—This is a subject quite out of our province; but before you determine we venture to recommend you to communicate with Miss Welch, 19, Carlton Villas, Kilburn. Her establishment is admirably conducted.

NAMES OF PLANTS (*J. Kirkite*).—The larger is *Chelidonium majus*, or Common Celandine; the smaller is *Anagallis tenella*, or Bog Pimpernel. (*A Young Gardener at Fulham*).—Your rootless plant is *Cuscuta Europæa*, or Dodder. (*William*).—1. *Francoa appendiculata*. 2. *Eupatorium corymbosum*. 3. *Nepeta violacea*. (*John Thompson*).—1. *Erica* (now *Calluna*) *vulgaris*. 2. *Erica tetralix*. 3. *Erica cinerea*. 4. *Artemisia vulgaris*. 5. *Teucrium scorodonia*. 6. *Coronopus Ruellii*, or Wart Cress.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

BRIDLINGTON. August 27th. *Sec.*, Mr. T. Cape, Bridlington.
DORCHESTER. Sept. 17th and 18th. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close Sept. 1st.
ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. *Secs.*, G. E. Attwood, and W. A. Warwick.
GLOUCESTERSHIRE. Nov. 26th and 27th. *Sec.*, E. Trinder, Esq., Cirencester. Entries close Nov. 1st.
LEOMINSTER. Thursday, October 16.
NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. *Sec.*, Richard Hawksley, jun. Entries close November 19th.
NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. *Sec.*, John Spencer, Nottingham.
SOWERBY BRIDGE. Sept. 5th. *Sec.*, F. Dyson, Esq., Sowerby Bridge. Entries close August 29th.
N.B.—Secretaries will oblige us by sending early copies of their lists.

GETTING UP A POULTRY SHOW.

THERE are certain disorders dependent on seasons—as hay fever, hydrophobia, &c.

There are others that are dependent on certain states of the atmosphere—as drowsiness, headaches; and there are others that induce the patient to follow the fashion of the times, whatever it may be. It will be our duty to speak of one of the latter—the desire to be one of the acting committee of a Poultry Show. We shall endeavour to speak first of the symptoms, next of the cure, then of the effects,

and, lastly, show how, instead of being treated as a disease, it may be ranked among the benefits which are allotted to a man.

The symptoms are unceasing talk on the subject; the desire to associate constantly with those suffering from the same malady, though in different stages; a peculiar defect in the sight, which makes all difficulties invisible, and magnifies successes. But the causes producing them are not always the same. We will, therefore, give some illustrations.

Mr. A., silversmith, aged 37, living at Willing, got up in his usual health, ate his breakfast, and while doing so read the local paper. He saw a Poultry Show advertised at Nolling, a town about thirty miles distant, but in the same county. He immediately left the breakfast-table without speaking to his wife, put on his hat, and hurried away. He did not return till three in the afternoon, having kept the dinner waiting an hour. He was then cool, the first paroxysm had passed off, and he was suffering from consequent depression. He answered his wife cheerfully, but on being asked where he had been, and what he had done, he again became excited, and said he had started the project of a Poultry Show at Willing. To her objections he answered with the lucidity which often startles observers in these cases, that he thought it a matter of business, as he should supply the Cups.

Now, in this instance, the cause of the malady was jealousy of Nolling, which is in all things the rival of Willing.

Mr. B. is a blacksmith, and an unsuccessful candidate for the office of Town Councillor. He was always nearly, but not quite successful, and was told he must be more active in all schemes for the advantage of the town. He had done his best for the coal club; he had promised everybody everything in all confidence and secrecy if he were elected; still, something was wanted.

He was quietly reading the paper after his work in the evening, when he met the following in the *Express*, of a neighbouring county:—"Our Poultry Show has just closed, having been most successful. Our townsmen may thank Mr. Z. for the pleasure and profit they have derived from it, and we hope, at the approaching elections for the office of Town Councillors, his claims will not be forgotten." Mr. B. was a man who had an antipathy to leaving home after he had put on his slippers; but on this occasion he rushed out of his house, although it rained at the time, and in ten minutes he was in the parlour of his chief supporters, detailing his discovery, and anticipating his success. His wife remonstrated, but he said the Poultry Show would make him Town Councillor, and when elected it would assist him in his business.

A craving for municipal honour was, in this instance, the cause of the malady.

Mr. C. is a retired hosier, and a teetotaler; he is a single man; never had any illness in his life; never took a meal out of his house, nor a pipe in it; was very fond of Bantams, but thought it almost cruel to shut them up at a Show; was sitting in his arbour thinking, with his eyes shut, when a kindred spirit joined him. He immediately ordered another glass of water for him. Conversation turned on the poor man's home, the necessity of attaching him to it, and the evil of frequenting beer-shops and public houses. "What can be done?" said one. "Ah!" said the other, "what can be done, indeed?" At that moment the Bantam cock crowed. "I wish," said the first, "they could derive as much pleasure from these innocent pets as I do." "They have no interest to induce them," said his friend; "you must make them profitable." "So they are," said the first. "I see that in a neighbouring town a labouring man sold a pen for £10. That is a fortune to such an one. Why cannot we persuade our people to do the same?" "Because we have no Poultry Show." "True, true," was the reply. The two quiet men looked at each other for some time without speaking. The poison was at work; first their eyes twinkled; then a little colour came into their faces; then they smiled; then they shook hands, and with one voice said, "We will get one up." Now was to be seen the climax of the first attack. "Our work-people will all keep fowls," said one. "They will take prizes," said the other. "They will sell their birds for large sums of money. They will be better off. They will not be ruined by sickness.

They will be out of debt at the shops. They will spend their time with their birds. They will not depend on the beer-shop for their pleasure. They will learn to be with their wives and children." "Capital idea," said Mr. C. "Glorious!" said his friend; "we will see about it at once." "Come," and to the astonishment of the neighbourhood, they walked fast, they were arm-in-arm, excited, talking and laughing loudly.

Philanthropy was here the cause of the disorder.

We will now speak of the cure.

The first dose can only be administered by one who is not suffering from the disease, but who is associated with those who are. It consists in the following words slowly and deliberately uttered:—

"Recollect, gentlemen, if this Show does not pay its expenses, the loss must be divided, and each member of the committee will have to pay his share."

In very slight attacks, we have known this treatment immediately successful, but in more confirmed cases, it only causes a few minutes' silence, when one will exclaim, "Nonsense, it must pay;" and all the others chorus with, "To be sure," "there is no doubt," &c. The convalescent immediately leaves the Society, and pronounces all who remain hopelessly mad.

There are many remedies which diminish the intensity of the attack, without effecting a cure. The following are some of them:—Misgivings as to who is to provide funds for the expenses incurred daily; rebuffs when asking for subscriptions; breezes in committee; the opinion each man entertains that all the work is put upon him. The absolute cure is reserved for the task of unpacking or repacking the poultry; an empty Show; grumbling exhibitors; a considerable sum out of pocket.

Some cases resist even these remedies, and then it requires *peine forte et dure*. It is administered in this way. The committee-man cheerfully pays his quota of loss, puts down his name for the following year, offers to do any amount of work, and has no doubt of ultimate success. Then some newspaper operates on him. The weekly sheet teems with fault-finding, and sometimes abuse; anonymous writers expose the faults and mistakes that never existed, except in their own imaginations. The committee showed favouritism, they appointed improper Judges, they neglected the birds entrusted to them, they do not deserve support. In one instance there was a delay of three hours and five minutes in returning a pen of fowls. It has been reported that five eggs were stolen during the Show. The pens should be larger. Ducks should be put by themselves. Sawdust is a bad thing for the bottoms of the cages; tan is no better; gravel spoils the colour of the white birds. Why does not the committee find something else? The same Judges were employed two years, and the Cups went to the same parties. Is it not curious? Can the committee explain it? The place was not clean. We picked up seven straws, and we were splashed while looking at the Ducks. We have heard the committee were at hand while the Judges were at work, and that one of them partook of soda water with them. We recommend subscribers and exhibitors to look to it.

The enthusiastic or insane man reads this, and the cure commences. The first symptom is the exclamation, "This is too bad; I pay my money, work like a horse, do not dream of any profit, only want to please my fellow-creatures, and get only abuse for my reward." In some instances the patient's eyes fill with tears; in others, he breaks out into a profuse perspiration. Some wish the writer were at hand, that they might punish him as he deserves. In all cases the patient seeks a fellow-sufferer, and while they vow they will never again expose themselves to such treatment the cure appears complete.

It now remains to speak of the effect, and this is not the least extraordinary part of the malady. However perfect the cure may seem for a time, it is only for a time. It always re-appears, and there is not on record an instance where the patient has not been often attacked in after years with the same disease. In some instances friends watch the patient, and at the critical period supply him with all sorts of excitement and novelty. They turn his attention to other things, and they sometimes succeed. At others the attack is too severe; and we will, in illustration of our last

position, quote from a manuscript work, "Confessions of a Poultry Show Committee Man:—

"The desire to get up a Show was as strong within me in 1855 as it was in 1850; but I determined to avoid the mistakes which made that a failure. My first step was to choose my colleagues. I required six besides myself; three of these should be intelligent men, but men of action, who would work; three should be men of influence and position, who should get subscribers. At the risk of being prolix, I shall, seeing this is a confession, write down all my ideas. Causes that can neither be foreseen nor prevented may bring loss on a Poultry Show. Example two out of three in London failures—one by a cab strike, another by an unusual snow storm; but it is my opinion that any Show persevered in for four years will pay its expenses, if it does not yield a profit, which is often the case. Attention should also be paid to the time of year when it is held, and to the date, that it may not clash with other meetings. There are many men who, for love of the pursuit, or who like some little importance, who would buy it at the expense of one or two pounds. Now, as the least successful Show never loses more than £25 or £30, I advise that the committee in such places shall be twenty in number, thus dividing the responsibility, while the working committee shall be seven, as before stated, and picked from the larger number. If a Show lose £20 it will be £1 each.

"To proceed. I picked seven men, and undertook to bear all loss, while I at once disclaimed any share of profit.

"My first step was to the railway authorities. My business was soon stated.

"I want," said I, 'a ten-guinea cup for our Poultry Show.'

"'Cannot give it,' was the reply.

"'You will lose money if you do not.'

"'Do not believe it.'

"'You will bring at least 200 people at 4s. each—£40.'

"'But you will have your Show whether we give the cup or not.'

"'I will not, because I will not work for those who will not help themselves.'

"'Call to-morrow.'

"'No; I have not time; I must have an answer now.'

"'Well, we will give five guineas.'

"'Next to an opulent neighbour.'

"'Want a subscription for the Poultry Show.'

"'I do not keep fowls.'

"'By the same argument refuse your subscription to the coal club next winter, because your cellar is full.'

"'I do not see that the cases bear one on the other.'

"'I do, inasmuch as they are unselfish.'

"'Well, I will give a guinea.'

"'The member for the town.'

"'Want a subscription for the Poultry Show.'

"'A shade of impatience passed over his brow.'

"'Why, really, Mr. —'

"'Oh!' said I, interrupting, 'I do not want much; a five-guinea cup would do more, perhaps, now than four times the sum laid out with an evident motive.'

"'True; I shall be happy to give it.'

"'I was very firm with the innkeepers and hotel proprietors.'

"'You must subscribe.'

"'Really cannot.'

"'As you like. Recollect last time your house was full all day, and so were your omnibuses to and from the station. Do not imagine you will have the profit without subscribing, because I am determined I will not work unless those who reap the benefit come forward in some way to help.'

"'Well, put me down for two guineas.'

"'I got a large and good list of subscribers. It may be objected that it is a painful job to canvass in this way; but it must be recollected that the object is so truly unselfish, that there can be no feeling of the sort.'

"'I felt sure of success. I sent out a liberal prize-list, and then came letters from exhibitors, some asking information, and some asking favours. I replied to all by an advertisement, 'To all intended exhibitors at — Poultry Show.' 'Prize lists, with all rules, have been sent to every applicant. As those rules will be strictly adhered to, no other answer is required to the letters received.'

"Entries did not come in, and my colleagues said we should have no Show. I felt no alarm, because I have always been sure that the exhibitor is the person most obliged.

"Next came applications to know who were the Judges, disapproving some and recommending others. These I at once dropped into the waste-paper basket. We were now within a fortnight of the limit appointed for entries, and they came in fast.

"The Show took place, and was well attended. Success was certain.

"I was stopped by an exhibitor. 'Sir,' said he, 'it was not courteous to answer *our* letters by an advertisement.'

"'Who are *we*?' asked I.

"'The exhibitors.'

"'What will be the result of my want of courtesy?'

"'I had a great mind not to send.'

"'Who would have been the loser?' said I. 'You sent two pens, for which you paid 8s., and you take away a cup worth five guineas. You forget I cannot *gain* anything!'

"Another who made the same complaint sold three fowls for ten guineas. I was firm with all; I do not think I offended any. I showed to all our interests were identical. I pointed out that squabbles were injurious, and only damaged a cause in which we were all interested. I showed to some that they made money by it, to others that they derived pleasure. To my townsmen I pointed out the advantages arising from the influx of company. To visitors I enlarged on the relaxation it afforded, and the consequent benefit, dwelling much on the fact that many men will not take necessary relaxation without they have something to *drag* them from the shop or counting-house. I worked hard, had a successful Show, did *much* good, was voted a piece of plate, of which I am not a little proud, carried over a balance of £50 to the next year, and mean to continue the Show as long as I live."

We will leave the illustration of the last point to rest on this quotation, merely remarking, we agree with it entirely, and are convinced, if it is a madness, there is much method in it.

PIGEONS POISONED BY WATER CONTAMINATED WITH LEAD.

THE following case, communicated to me by Mr. Esquilant, one of the members of the Philoperisteron Society, and well known as a most enthusiastic admirer and successful exhibitor of many of our choicest breeds of domestic Pigeons, is so very instructive, that no preface is required to introduce it to the readers of THE COTTAGE GARDENER.

On removing some Pigeons to new premises, they were supplied with water of a very soft and apparently pleasant character from a cistern lined with lead. In a short time many of the birds became paralytic, and suffered much from cramp and spasms in the limbs. At first, the real cause was not suspected, and the Pigeons were regarded as suffering from some peculiar and mysterious disease; but the symptoms of poisoning by lead became so strongly marked, that suspicion was directed to the right quarter, and on the source of the water supply having been changed, and some diluted sulphuric acid added to their drink, the birds gradually recovered.

It may be, perhaps, desirable to state the circumstances under which lead renders water poisonous. When this metal is exposed to the air, it becomes covered with a slight film or tarnish, which is chiefly carbonate of lead, or white lead; this is soluble to a slight degree in water, rendering the latter poisonous, and very severe symptoms, both in the case of men and animals, have been produced by its employment. If, however, the water is not quite free from mineral matters, but contains a very small proportion of any soluble sulphate, the tarnish or film on the surface of the lead is changed in its character, being converted into sulphate (instead of carbonate) of lead, and this is so exceedingly insoluble in water, that not the slightest trace of it is dissolved. Hence all ordinary water can be kept with safety in leaden cisterns, and transmitted, without contamination, through leaden pipes; rain water, however, cannot, nor any exceedingly soft water free from mineral

matters. Should such water be kept in leaden cisterns, it becomes poisonous, producing partial paralysis. These evil effects, however, may be entirely prevented by adding to the water in the cistern an ounce or two of Epsom or Glauber salts every fortnight or month, which sufficiently impregnates the water with the requisite mineral materials to produce the desirable effect which has been described.—W. B. TEGETMEIER.

POULTRY SALES.

THE last sale of the season took place at Mr. Stevens's on the 5th, and the prices realised proved the truth of the assertion, that *good stock* birds will always command fair prices. The first six lots, which consisted of three Dorking chickens in each, produced £3 16s. 6d. the six. Some good Polands, from Mr. Edwards, of Bulstrode, produced above a guinea a couple. Light Brahmas were in demand for the Continent. Lord de Blaquiere sent some very good Black Cochins, bred from and entered as Brahmas, and a few good Ronen Ducks, which produced about £1 each; and a pen of Golden-pencilled Hamburgs sold for £1 10s.

Under the name of Australian Geese, Mr. Warwick, of Colechester, forwarded a pair of birds recommended as extraordinary layers, which were nothing more than common Geese crossed with the Coloured Chinese or Swan Goose, the result being a hybrid that is not uncommon in many parts of the world where sailing-vessels from Eastern Asia touch. These birds are usually sterile if mated together; but the eggs are prolific if they are mated with either of the parent races. As layers, the cross-bred Geese are useful, deriving their prolificacy from their Chinese parent, and as table birds they are unexceptionable. The sale contrasted pleasantly with some of the recent ones, as, to use a commercial phrase, things are evidently looking up.—W. B. T.

KEEPING COLLARED TURTLE DOVES AT LIBERTY.

I AM happy to be enabled to give "E. M. A." some information respecting giving these Doves their liberty. In the first place, it must be borne in mind that birds raised in cages, and that have never had their liberty, have but a very imperfect use of their wings, that they cannot judge the relative distance of objects, and do not know on what objects to alight, or which to shun. A few lessons in a large room or some such place will be necessary. At first, the bird is soon exhausted by the excitement caused by its own blunders and hesitations; but it very soon learns to glide smoothly and easily from one object to another, and, with little exertion to itself, will become very difficult to catch. If they have full liberty they will prefer the shrubs and trees to roost and breed in; but they may be taught to return to a cage or pen by first accustoming them to do so in the room to which they may be compelled by hunger; and once having thoroughly learnt the lesson, they rarely forget. They might then be secured for the night. They will require constant daily feeding, and when once accustomed to the place, there is but little fear of their straying far while food is to be had at home, nor have I found the cold of our late severe winter injure them in the least.—B. P. B.

THE HOUSEHOLD.

SYLLABUBS.—One pint and a half of cream, half a pint of white wine, the juice of a lemon, a spoonful of brandy, and sweetened with loaf sugar, whisked well.

LEMON SPONGE.—One ounce of isinglass dissolved in half a pint of water over-night, boiled with lemon and sugar to the taste, and whisked till it is thick; then put into a mould.

GROUND RICE CAKE.—One quarter of a pound of rice, the same of flour, half a pound of sugar, half a pound of butter, six eggs, leaving out half the whites.

JUGGED HARE.—Cut it into little pieces, lard them here

and there with little slips of bacon, season them with pepper and salt, put them into an earthen jug, with a blade of mace, an onion stuck with cloves, and a bunch of sweet herbs; cover the jug, or lay the meat in so close that nothing can get in; then set it in a pot of boiling water, and three hours will do it; turn it out into the dish, and take out the onion and herbs; add a little thickening, a glass of port wine, and serve that over the hare; if you do not like it larded, leave it out.

PETIT PATTIES FOR GARNISHING DISHES.—Make a short crust, roll it thick, make them about as big as the bowl of a spoon, and about an inch deep; take a piece of veal enough to fill the patty, as much bacon and beef suet, shred them all very fine, season them with pepper, salt, and a little sweet herbs, put them into a stew-pan, keep turning them about, with a few mushrooms chopped small, for eight or ten minutes; then fill your petit patties, and cover them with some crust, colour them with the yolk of an egg, and bake them.

PICKLE FOR TONGUES, BEEF, AND PORK.—3lbs. of bay salt, 2lbs. of common salt, $\frac{1}{4}$ lb. of saltpetre, 1lb. of moist sugar, boiled in two gallons of water for one hour, and skim it. Let it stand until cold, then put it over the meat. The meat to be salted with common salt twenty-four hours before put into the pickle; the bay salt and saltpetre to be bruised fine, and then put into cold water, then boiled. Beef and pork must not be pickled together.

TWO CHRISTMAS PUDDINGS.— $1\frac{1}{4}$ lb. of flour; $1\frac{1}{4}$ lb. of French bread; $2\frac{1}{2}$ lbs. of suet, when chopped; $2\frac{1}{2}$ lbs. of plums, stoned; $2\frac{1}{2}$ lbs. of currants, washed; 20 eggs; 15 ozs. of moist sugar; 15 ozs. of lemon-peel, candied; 5 ozs. orange-peel, candied; 5 ozs. citron-peel, candied; 3 small nutmegs, ground; one-third of an ounce of mace; one-third of an ounce of cloves; 30 bitter almonds, ground; a very little Cayenne; 1 quart of milk; $\frac{1}{2}$ pint of brandy; 1 pint of ale; 1 lemon-peel, chopped fine. Mix the spice with the flour before the suet; after the suet mix the fruit, &c. Dry the flour first in the oven. Best to mix in the milk the over night.

MULLIGATAWNEY SOUP.—Boil the meat, 1lb. of scrag mutton, in three pints of water till reduced to half. Take out the meat and lay by on a plate. Mix into the broth the Curry Powder, and the two table spoonsful of split peas, one onion sliced, the juice of the tamarind, and one teaspoonful of salt. Boil, covered up, for a quarter of an hour; strain through a sieve, and julp the peas a little while straining; chop a bit of onion, and fry in a bit of butter; pour the liquor on it, and simmer five minutes.

OUR LETTER BOX.

CANKER IN PIGEONS—DISTINGUISHING THE SEX OF YOUNG BIRDS.—"I should be very much obliged if you could tell me the cause of young pigeons having ulcers in their throats, and what to do to cure them? I have lost a great many this season. Also, how to tell a male bird from a female when young?—A CONSTANT SUBSCRIBER."

[Canker or ulcers in the mouths and throats of pigeons are attributable to several causes, as fighting and pecking each other; drinking foul or dirty water; and water that is given in tin vessels is considered very liable to produce this disease. I believe it is also sometimes assignable to the want of green food. When once introduced it spreads rapidly, being very infectious; therefore the diseased birds should be separated from the healthy. As a cure, I advise cleanliness; remove the tumours, and touch the part thoroughly with caustic. As preventives, I advise stoneware drinking-vessels; greenmeats, as lettuces, cabbages, &c.; and a lump of rock salt to peck at. The sexes of young birds are very difficult to determine; the most practised eye is sometimes deceived. The hen has usually the narrower head and beak, the shorter breast-bone, and her vent-bones are wider apart. But the best plan is to wait till the birds are matchable, when the play of the cock, and the show of the hen, put an end to all doubts.—B. P. B.]

EXHIBITING GAME CHICKENS (Amateur).—Game chickens are old enough to exhibit at four months old; but, in common with other breeds, the older they are the greater their prospect of success in competition. They should be dubbed before they are shown.

DISEASED SPANISH FOWLS.—"Would you be so kind as to inform me in your next number how to treat Spanish chickens, three or four months old, under the following circumstances?—Their combs appear very dark purple at the edges; their feet cold; body cold and stiff; cropbound, i.e., food undigested; no difficulty of breathing, but very offensive; likewise, after the medicine I gave them had operated, they became so offensive that it was disagreeable to come near the cage. No matter how much they are purged, the food still remains undigested, and rather more consolidated into a hard lump, though previously soft. Their food has been bran and oatmeal scalded, and occasionally oats and barley; their walk a garden and orchard, abundance of fresh water,

with everything requisite for fowls, as I am no novice in them; but how to combat this disease I know not. They die, generally, the third day after being attacked. I have fowls at a farm-house similarly attacked. I might, perhaps, have said that with some it begins with a costive, and with others a very loose state of bowels.—BLACK SPANISH."

[I can only imagine, as the disease occurs at two separate walks, that the strain is tainted with scrofula from breeding in and in, or some other cause. This disease is hereditary, and would most probably be developed in the form of small cheesy-looking tubercles in the interior of the body. The only remedy in such a case would be a new stock.—W. B. TEGETMEIER.]

REARING WEAKLY FOWLS (W. H.).—Our correspondent asks the most likely plan of rearing some Spangled Hamburgs that were bred in and in. They are ricketty, with twisted spine, and weak on the legs, with dry plumage. Unless of surpassing beauty in the markings, kill them; if it is wished to preserve them, a green run, oatmeal and milk, barley meal and milk, a little small wheat, crushed corn, &c. Any or all of these for a change will effect all that can be done in the way of diet; and as a tonic a little iron as they are purged, one grain of the sulphate of iron (green vitriol) daily.—W. B. T.

BARRENNESS OF HYBRIDS BETWEEN BANTAM AND PHEASANT (S. S. H.).—If, as your note seems to imply, your birds are bred from a Bantam and a true Pheasant, and not from a Pheasant fowl or Spangled Hamburg, they will be sterile; they are mules, and incapable of reproduction. The hens will lay, but the eggs will not hatch.—W. B. T.

LONDON MARKETS.—August 18th.

COVENT GARDEN.

Heavy consignments of foreign *Plums* have come to hand this week, being the chief feature in our importations of fruit. Several cargoes of West India *Pines*, of somewhat better description, have passed under the hammer during the last few days, the season for which is now nearly over. Good samples of late *Currants* are yet to be met with. *Raspberries* and *Strawberries* all but done. *Potato* trade much the same as last week.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz.....	6d. to 9d.
"dessert.....	12s. ,, 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen....	1s. ,, 3s.	Potatoes, per cwt.....	3s. to 6s.
Peaches, per doz....	10s. ,, 20s.	"Frame, per lb.....	6d. ,, 10d.
Nectarines, do.....	10s. ,, 20s.	"New, per lb....	2d. ,, 4d.
Pine-apples, per lb....	6s. ,, 10s.	Onions, Y'ng, per h'nd....	4d. ,, 6d.
Hothouse Grapes, per lb.	3s. ,, 6s.	"Old, per bushel	5s. ,, 7s.
Strawberries, per lb.	3d. ,, 1s.	Turnips, per bunch....	9d. ,, 1s.
Foreign Melons, each	2s. ,, 5s.	Leeks, per bunch....	2d. ,, 3d.
Wall Cherries, per lb.	1s. to 1s 6d.	Garlic, per lb.....	6d. ,, 8d.
Cherries, per lb.....	6d. ,, 1s.	Horseradish, per	
Oranges, per 100....	4s. ,, 10s.	bunch.....	1s 6d. to 2s 6d.
Seville Oranges, do...	6s. ,, 12s.	Shallots, per lb.....	6d. to 1s.
Lemons.....	6s. ,, 12s.	Lettuce, Cos, each....	6d. ,, 8c.
Almonds, per lb.....	2s. ,, —s.	" Cabbage per doz.	2d. ,, 3d.
Nuts, Filberts, per		Endive, per score....	1s 6d. ,, 2s.
100lbs.....	50s. ,, 60s.	Celery, per bunch....	9d. to 1s 6d.
" Cobs, ditto....	80s. ,, 100s.	Radishes, Turnip, per	
" Barcelona, per		dozen bunches....	— to 6d.
bushel.....	20s. ,, 22s.	Water Cresses, ditto..	6d. ,, 9d.
Nuts, Brazil, ditto....	12s. ,, 14s.	Small Salad, per	
Walnuts, per 1000 ..	9s. ,, 12s.	punnet.....	2d. ,, 3d.
Chestnuts, per bushel	15s. ,, 24s.	Artichokes, per lb....	— ,, 2d.

VEGETABLES.

Cabbages, per doz....	1s. to 1s 6d.	HERBS.	
"Red, per doz....	2s. to 4s.	Basil, per bunch....	4d. to 6d.
Cauliflowers, each....	9d. ,, 1s.	Marjoram, per bunch	4d. ,, 6d.
Brocoli, per h'nd....	3d. ,, 6d.	Fennel, per bunch ..	2d. ,, 3d.
Savoy.....	1s. ,, 2s.	Savory, per bunch ..	2d. ,, 3d.
Greens, per doz. bnch.	4s. ,, 6s.	Thyme, per bunch ..	2d. ,, 3d.
Spinach, per sieve ..	— ,, 4s.	Parsley, per bunch ..	2d. ,, 3d.
French Peas, per bshl.	6s. ,, 10s.	Mint, per bunch	2d. ,, 4d.
French Beans, per 100	1s. ,, 2s.	Green Mint	6d. ,, 8d.
Carrots, per bunch ..	9d. ,, 1s.		

POULTRY.

The continuance of hot weather makes the weekly quotation difficult, because, while many things of unquestionable quality are sold at nominal prices to escape entire loss, those that promise to resist the heat make more than an average market price. In returning for Grouse, it is necessary to say the price quoted extends only to Saturday last. Judging from the supply, we should say the English moors were well stocked with forward birds. The arrivals from Scotland say but little for the season.

Large Fowls 5s. 0d. to 5s. 6d. each.	Pigeons	8d. to 9d. each.
Smaller do 3s. 6d. to 4s. 0d. "	Quails	2s. 0d. to 0s. 0d. "
Chickens .. 2s. 6d. to 2s. 9d. "	Leverets ..	4s. 0d. to 4s. 6d. "
Geese..... 6s. 0d. to 7s. 0d. "	Rabbits....	1s. 5d. to 1s. 6d. "
Ducks 2s. 9d. to 3s. 3d. "	Wild ditto	10d. to 1s. "
Grouse, young.....		3s. 6d. to 4s. 6d.

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUG. 26—SEPT. 1, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
26	TU	PR. ALBERT BORN, 1819.	30.047—29.775	74—39	N.	—	5 a 5	vi	morri.	26	1 32	239
27	W	Arctia lubricipeda.	29.983—29.878	77—49	S.W.	—	7	56	0 59	27	1 15	240
28	TH	Arctia phaeorrhæa.	29.858—29.777	81—44	S.W.	—	8	54	2 16	28	0 57	241
29	F	Arctia V. nigra.	30.025—29.991	75—42	W.	—	10	52	3 33	29	0 40	242
30	S	Callimorpha Jacobere.	30.254—30.250	72—40	N.E.	—	11	50	sets.	30	0 22	243
31	SUN	15 SUNDAY AFTER TRINITY.	30.210—30.181	78—41	E.	—	13	47	7 a 18	1	0 3	244
1	M	The satellite Moth.	30.346—30.282	68—45	N.E.	—	14	45	7 27	2	0 15	245

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 51.5°, and 49.4°, respectively. The greatest heat, 85°, occurred on the 1st, in 1843; and the lowest cold, 32°, on the 29th, in 1850. During the period 120 days were fine, and on 76 rain fell.

LASTRÆA FENISECII.



THE specific name, from the Latin *fenum*, hay, refers to the smell omitted by this plant, but that smell differs so little from the smell of other species that we agree with Mr. Charles Johnson in wishing that the specific name of *recurvum*, given it by some botanists, had been more generally preferred, for *recurvum*, curled-back, well points out the peculiarly crisped appearance of this Fern.

It has been called *Aspidium dilatatum* var. *concavum*; *Aspidium recurvum*; *Aspidium spinulosum*, var.; and *Lophodium fenisecii*. In English it is the Hay-scented Buckler Fern, and Recurved Prickly-toothed Fern.

Root large and tufted, rootlets numerous. The *Fronde* rise from the tuft in a circle; they are bright pale green,

with the leaflets very much curled, or crisped upward, rendering their upper surface concave. The stem curves downward gracefully, the lower half being without leaflets, but thickly clothed with pale, semi-transparent scales; these scales are long, narrow, and usually jagged. The general outline of the leafleted portion is a long triangle. The *leaflets* in full-grown plants are constantly three-leafited (tripinnate) at the lower part of the frond, and of the lower leaflets generally; the leaflets and lobes of the upper parts of the leaflets are all finely toothed, each tooth ending in a short spine, giving it a crisped, irregular, yet graceful appearance, which, combined with the concave form of the leaflets, enables it at once to be identified. On the under surface of the leaflets are numerous stalkless glands, producing the secretion which gives forth the hay-like smell to which we have already alluded. The *fructification* is regularly scattered over the under surface of each leaflet, each mass being covered with a roundish kidney-shaped membrane (*indusium*), having a jagged edge, and sometimes having on the edge a few of the glands just noticed.

This Fern is not generally found in the British Islands, but it occurs abundantly on the western side of *England*, as in Cornwall and Devon, and less plentifully, in Somersetshire, Sussex, Cumberland, at Ripon, Settle and Scarborough, in Yorkshire, and in North Lancashire. In *Wales*, in Anglesea, Glamorganshire, and Merionethshire. In *Scotland* it is found in the East and West Highlands, and in the Northern and Western Islands.

It occurs sometimes in dryish situations, but is usually found in moist, sheltered, woody places, and on the banks beneath hedges.

We think that this Fern was first discovered and particularised by Dr. Johnson, the editor of the second Edition of "Gerarde's Herbal," and that in that work (page 1130) he describes it as "the Male Fern not branched; with narrow, separated, deeply-toothed leaflets" (*Filix mas non ramosa pinnulis angustis, raris, profunde dentatis*). Be this as it may, his name-sake, Mr. Charles Johnson, says, "In 1821, I first noticed it in the vicinity of Dolgelly, and again in the Vale of Festiniog (in Merionethshire and Glamorganshire), and though marking its peculiarity, supposed it, in my inexperience, to be a form of *Aspidium dilatatum* of Smith. It had not then received name or notice among recent botanists, though, apparently, referred to both by

Ray and Plukenet; nor was my attention directed to its very distinct character, even as a variety, until, in 1831, the Rev. W. T. Bree described it in the 'Magazine of Natural History,' under the name of *recurvum*, since which time opinion has been divided respecting its claim to rank as a species."—(*Sowerby's British Ferns*.)

Mr. Reevo, writing to us relative to its cultivation, says:—

"*Lastræa Fenisecii* is, perhaps (of all the *Lastræas*), the most elegant in form, and, producing as it does many distinct forms, is well worth cultivating. It is of such easy culture, that it should not be absent from any collection. It will, in the shade, unfold its fronds to the length of three feet, and produce them rather abundantly, making, together, a very noble object; but in proportion as it is exposed to the sun, so it becomes less luxuriant in habit, and also less in the number of its fronds. It may be grown in almost any degree of shade, from the Fernery or shrubbery, excluded from the sun altogether, to a situation exposed to all its rays; but, as I have said, much beauty will be lost according to the degree of exposure to light which it has to endure. It may be grown in sandy loam, with a little leaf-mould; or, in default of leaf-mould, in most cases, a few very rotten sticks broken into small pieces will form a very good substitute. The fructification (which will be in a ripe state towards the end of the summer) may be employed for its propagation, proceeding in the same way as directed for other species. The plants, if grown in pots, will require to be plunged in winter."

DURING some recent rambles in various parts of England nothing struck us more forcibly than the general abundance of seeding weeds in the hedgerows and vacant plots by the road sides. There were some striking contrasts to this gross neglect, and none more so than on a long, dreary piece of down land between East Ilsley and Shilton, in Berkshire. We never saw cleaner, neater hedgerows than near the latter village; and the farmers, with praiseworthy foresight, had men employed in cutting down the Thistles just blooming on the Downs. Thistles, Dandelions, Groundsel, and similarly parachuted-seeded plants, when allowed to perfect their seed, become a wide-spreading calamity to the neighbourhood; and we cannot urge too strongly upon parish authorities and railway companies, as well as upon the trustees of turnpike roads and individuals, the very great importance of destroying such weeds, or, at all events, preventing their seeding by cutting them down as often as they reach a blooming state. So important is such prevention felt to be in Australia, and to such an excess have Thistles attained from neglect in that colony, that the Legislature has visited with a severe penalty those who neglect to destroy them.

The following is extracted from the *Melbourne Argus*:—

"An act against the growth of Thistles received the Royal assent on the 19th of March. It is one the necessity of which must be obvious to every one acquainted with the colony, and, with a view to its effectual operation, it is of a very stringent character. It may seem, at first sight, that its provisions are too severe, but from its nature the act requires to be armed with very rigorous powers of enforcement, and with heavy penalties for non-compliance with its provisions. After reciting in its preamble that great loss and injury are occasioned to the lands of the colony by the spread of the plant called the Thistle, and that no measures can be effectual for its eradication unless provision be made for its destruction on private as well as public property, the act proceeds to provide the required remedy. By clause 1,

any owner, lessee, or occupier of land in Victoria upon which, or on the half of any road adjacent thereto, Thistles are growing, is bound, after fourteen days' notice, signed by a justice of the peace, to destroy all Thistles upon such land, or, failing to do so, he incurs a penalty of not less than 5*l.*, or more than 20*l.* Service of the notice at the occupier's usual or last known place of abode is held good, and all cases under the act are determined in a summary way by two or more justices of the peace. The justices, however, have power to suspend the conviction on proof that the occupier has used and is using reasonable exertions to destroy the plant. No information can be laid against any owner of land until the act has been enforced against the occupier or lessee, and no second information can be laid within thirty days after a previous conviction. If any owner, lessee, or occupier neglect or refuse to destroy Thistles on his land for a space of seven days after the receipt of notice, any person armed with a written authority from a justice of the peace may enter on the land, with sufficient assistants, to destroy and eradicate the nuisance, and may cause the expence to be assessed by two justices of the peace, and recover them in a summary way. Persons armed with the written authority of a magistrate may enter on lands to search for Thistles without being guilty of a trespass, and are not liable for any damage done unless inflicted unnecessarily and wilfully. Justices are empowered to issue orders for search, and to order the destruction of Thistles."

With every respect for British liberties, we should have no objection to see a similar statute passed, enforcing upon all occupiers of land in the British Islands a similar destruction of migratory weeds.

It is quite true that Britons have a right to do what they like with their own, but their doings with their own property ought not, and must not, cause injury to the property of others. A manufacturer may have as much smoke and as many corrosive fumes as he may choose come out of his chimneys, but he must have his chimneys so high that the smoke and the fumes do not injure the crops of his neighbours; for if that smoke or those fumes do cause such injury, then the manufacturer is liable to be mulcted in damages.

If a cultivator of the soil could prove that a certain overwhelming invasion of Thistles sprang up from seeds blown to his ground from the neglected ground of a neighbour, we are not sure that damages could not be recovered against that neighbour; but the difficulty would be to prove that the Thistles sprang up from seed so migrated.

Every cultivator of the soil knows, and he ought to act as common sense dictates upon such knowledge, that every weed is a robber, taking from the soil that which ought to add to the nourishment of the crop cultivated, among which that weed grows. Every cultivator also knows that the old adage, "One year's seeding, seven years' weeding," is scarcely an exaggeration of the increased hoe labour and fallowing caused by one year's neglect to destroy the weeds. That it is scarcely an exaggeration is evidenced by the single fact that 8000 seeds have been ripened in one Poppy head. But we have still fuller information than this, for Mr. Morton has published the following list of weeds, with the number of seeds obtained from a single plant of each, and the date of the gathering:—

Black mustard	8,000	....	Aug. 17
Charlock	4,000	....	Sept. 18
Shepherd's purse	4,500	....	— 9

Hedge mustard	5,400	....	Oct. 13
Cow parsnip	5,000	....	Aug. 17
Fool's parsley	6,000	....	—
Corn bindweed	600	....	Sept. 26
Henbit nettle	2,000	....	—
Red Bartsia	4,800	....	Oct. 1
Dandelion	2,040	....	—
Hard-head scabious	4,000	....	Sept. 10
Blackhead	3,000	....	—
Nipplewort	8,400	....	Sept. 23
Stinking chamomile	40,650	....	—
Mayweed	45,000	....	Oct. 14
Ox-eye daisy	15,000	....	Sept. 18
Burdock	24,520	....	Oct. 1
Sowthistle	19,000	....	—
Groundsel	6,500	....	Sept. 10
Stemless thistle	600	....	— 8
Musk thistle	3,750	....	Oct. 13
Corn cockle	2,940	....	Sept. 8
Common campion	3,425	....	Oct. 1
Red poppy	50,000	....	— 19
Cleavers	1,100	....	Sept. 11
Common dock	13,000	....	— 15
Dwarf spurge	1,500	....	— 19
Petty spurge	1,200	....	— 11
Sun spurge	1,072	....	Oct. 14

It is true that all these seeds are not usually fertile, that they have many enemies, and may not all vegetate; but, on the other hand, they may be fertile, they may escape those enemies, and they may vegetate. At all events, experience tells us that too many do survive, and we would especially rouse attention at this season to stringent measures for preventing them having a chance of so doing.

CAMELLIAS.

THE subject of my present remarks is, perhaps, the most popular favourite of any house plant we possess. I ask pardon, however, of those old friends of our childhood, the Geraniums; but they have become so naturalised by a sojourn of nearly two centuries, that we believe they would not object to our paying a compliment extra to a comparative stranger.

But to the merits of the Camellia. What greenhouse is counted complete without this charming family? What winter or early spring bouquet is preferred to one possessing a pure white Camellia? But, indeed, look at their other qualifications, as conservatory trees or bushes, as adapted to the capacious saloon, or even the assembly or ball room. With these things let us take into consideration the very lengthened period we can have them in blossom. What shall we say—from September until June? or, perhaps, better say at once all the year round. But then it is not a mere question of blossoms; observe its foliage, how noble in general appearance, how rich a green, and how abiding!

I wish here to point to a few particular features connected with their culture; for, although much has been said concerning them, more remains to be said; and, moreover, as THE COTTAGE GARDENER is continually receiving a fresh accession of readers, we feel it a duty to recur occasionally to anything important connected with gardening.

In the first place, *soil*. I am persuaded there is nothing superior to turfy loam and fibrous heath-soil—two parts of the former to one of the latter; they may, however, be well grown in fibrous loam alone. In the next place, *drainage*. No plant requires a more safe and permanent drainage than the Camellia; without this it matters not what the compost may be. Some persons drain in what may be termed a temporary way, although possibly complete for a short period; but the drainage

should be so accomplished as that by no ordinary chance it can become choked for several years. Another important feature I will suggest—one which concerns the free percolation of water, not only round the sides of the pot, but up to the very stem itself. It is well known, that as they are transferred from pot to pot without disrooting, the original ball necessarily becomes very hard, and this hardness is apt to become complete imperviousness, through the peculiar character of the fibres, which accumulate in myriads close up to the very bole.

From hence it may at once be seen how very prudent it would be to pot them originally in a very porous soil. I should say that finely pounded crocks and charcoal, each small as Radish-seed, would be excellent for this purpose, adding about a sixth-part of this to the compost. This might not suit the nurseryman's purpose, but it would, at least, be sound practice, when a permanency of habit is desirable. I have heard so many complaints of sickly Camellias, have answered so many queries in my time respecting them, most of the evils being traceable to stagnation, that I would fain lay much stress on this matter.

Next, as to *watering*. Here we have a most important consideration. Few shrubs or plants require more water than this, at least, at certain periods, that is to say, if the pots be well filled with roots. Plants in a sickly state, or very young stock, may form a slight exception. The watering, moreover, must indeed be watering when applied to the root. I have repeatedly seen Camellias which were a mass of dust at the root, whilst the unconscious owner would assure me that they were watered every day. The periods during which they require most water are during the growth and through the blooming season, although they require it liberally from the moment the blossom-buds are as large as good-sized Peas until the blossoming is finished.

When plants thus grow luxuriantly, much caution is requisite to prevent them rushing into a second growth; and this is the period when they should be niggardly watered. My practice, under such circumstances, has been to suffer the plants to flag before applying water, and then to give it them in a niggardly way. This, persisted in for about three weeks, will in general induce the formation of blossom-buds liberally; and these once insured, a feeding process may commence. Shading, however, becomes indispensable under such circumstances; indeed, I shade almost constantly, from the moment the shoots commence growth until they are turned out-of-doors.

About turning them out there has been some difference of opinion, and I may here be permitted to offer a few remarks on that head. If their blossom-buds can be obtained tolerably plump in good time, say by the end of July, under such circumstances I would put them out until the second week in September. But to turn out Camellias before their blossom-buds are decided, and, perhaps, as late as August, is, in my opinion, the worst of practices.

I would here, however, remark, that in the Camellia house we possess there are four large trees which we cannot conveniently turn out, and they have remained in for years; the kinds happen to be the old scarlet *Waratah*, the old *Double-striped*, the *Rossi*, and the *Elegans*. Now, these all produce very fine flowers annually. As for the *Rossi* and the *Elegans*, I am persuaded they cannot be excelled in England for the size and style of their blossoms, many of which were nearly half a yard round; so it is evident that there is no sheer necessity for turning them out, and I name this for the comforting of those who are undecided on this head.

One more point I may advert to before closing my advice. I hold it to be somewhat important to give the plants a decided *rest* for nearly a month after they have

done flowering, if possible. This rest should consist in subjecting the plant to as low a temperature as it will bear, say, 32° to 36°, giving little or no water. In order to carry this out effectually, I advise that they be not suffered to expand every blossom-bud which Nature, in her bounty, may have bestowed on them; but rather to pick off the latest, or those which lag much behind, in order to gain a longer rest period. If plants are kept constantly at work without any rest, removed annually from the warm winter conservatory to the forcing-pit, the sure consequence will be a weakened appearance. I need hardly dwell here on the importance of using *liquid-manures*. This must surely be somewhat generally known. I have plants here which are seven or eight feet high and bushy, in about ten-inch pots, and have been in them without repotting for the last half-dozen years. These are, of course, "pot-bound" in the strictest sense, and look as healthy as any in the house. They have, unquestionably, kept their standing by the use of liquid-manures. I use guano-water, good Peruvian; and when the plants require feeding extra this is used constantly, only very weak and very clear.

Much more might be said concerning Camellias, but it is to be hoped these hints on important points in their culture may assist some of the readers of THE COTTAGE GARDENER.

R. ERRINGTON.

THE COMPOST HEAP.—BEDDING GERANIUMS.

THE doctors do say that pastry is very bad for the stomach, worse for some stomachs than for others, and worst of all in the time of cholera, and I partly believe it; but I believe, also, that use is second nature, and that one might, by use, learn to live in a pastry shop, or over a pastry shop, or in the close neighbourhood of a pastry manufacture; and it strikes me, from something in the wind, that more of us are living in the neighbourhoods of such manufactures than doctors are aware of; but from a knowledge of the ins and outs, and of the outlets of the Experimental Garden, I can vouch for no pies and pastry to be found there, or in that direction. Now, consider on it, and just say, if you can conscientiously say, that your garden is not surrounded with pastry, that you do not employ a pastry-cook of some order or degree, and turn a deaf ear to the doctors. I shall take your confession for or against the "allegation;" but, like the lawyers, I may use it against you lower down.

Haggis is chieftain of the pudding race, as Burns said, and I say that a "muck pie" is the head and heart of pastry—that a muck pie breeds all sorts of things. In the first place, it breeds laziness; in the second, it breeds rats and mice; in the third, snails and slugs; in the fourth, flies and grubs; in the fifth, a disagreeable odour; in the sixth, a horrid bad smell; and in the seventh place, the old culminating number, it breeds pestilence; the pestilence that walks by noon-day, and slumbers not at night; that cuts down the fairest of our flowers before our eyes, some before they are hardly in the bud, and some in all the different stages on to ripe maturity.

How few of us seem to understand that seven steps are the actual distance between the back door of the garden and the front door of the sexton's house, or, in other words, between the cradle, the nursery, or the drawing room and the churchyard; but the actual number of steps is now before you, and now answer me—Do you keep a pastry-cook to make muck pies on the right or left of the back-garden door, or along the back of the shrubberies, or anywhere else, that you are aware

of, with such limits as would cause a shudder, a faintness, or a languishing to any one of your family, or to those whom you employ about you? or is he a man who "knows his business," and keeps your place in apple-pie order, and his own place in the order of muck pies, where all about the "back premises" are heaps and *humps* of all the scratchings and scrapings of the last few weeks, some "smoking hot," some steaming it to leeward, and some in all the "incipient stages," or first steps, without a crust or covering?

The old despiser of books tells me that all pastry "in back gardening" is "a downright wastery;" that no one but "a reader o' books" would be so daft as to lose the "cream o' the garden" that way; that the "pestilence" is the strength of all compost heaps; that the "fool who lets it go" should be sent after it next day; that if properly made and "cared for," a compost heap might "lie anywhere," and be "as sweet as nutmegs;" that, no matter how many "fingers are in the pie," one man should have the charge of it the year round; and no matter if it be "all fish which comes in the net" or to the compost heap. All fishes require "sauce of some kind, but the sauce of the byre for me," said the old man, with a knowing look and a long pinch of "Lundy-foot," meaning the drainage from the cow-house or byre. He says that the new doctrine of putting ammoniacal water on refuse vegetables, to kill them and the bad smell together, is "all gumption," and could never come into a man's head without reading books.

I was a long time before I could get out of him how he managed to keep down bad smells if his heaps were "anywhere," and what, I think, I did learn was only made out of parables, such as throwing up coppers for school-boys to battle for, or letting off bad smells from compost yards for philosophers to write about; the poorest boy ought to get most copper, as he needed it most. Poor soil, he maintains, "needs most dung, and takes it readiest," but it must be wet. Take the top part of the poorest "brake" or plot of ground in the garden; when it is frozen just two inches deep pile this up, and put it under cover in the compost yard; short, littery dung is the best covering. As the men bring in the rubbish and refuse of the garden, let them lay it down in a ring round the compost heap, or the foundation of one, till the ring begins to heat; then the man in charge is to fork it all up, mix it, and lay it on the heap, and then lay a thin coat of the poor, wet soil all over it, and the poor soil will take in and fix the bad smell "better than anything."

At all events, a better system than that which it obtains in general is absolutely necessary to save the spirit of the compost heap and the lives of people who pass that way, or are obliged to live near it in the Dog-days; and that we manage pretty well at the Experimental, much after the manner of the despiser of book learning.

From the day which brings you this tale the gates of the Experimental Garden will be closed for the season, unless some one discovers the long-lost *Variegated Peltatum*, or Running Pink Ivy-leaf Geranium in the variegated form, and that would be a treasure indeed. I think I had it once in my hands, but I am not quite certain of that. I think, also, from knowing all the rest of them, that I could tell it by a leaf or cutting. It was figured in "Andrew's Geraniaceæ," or coloured engravings of Geraniums, a work which I have no access to without going to the British Museum. If any of our readers happen to have that scarce book, or could see it in the national library, I should be thankful to know what is said about it.

There is a little plant, which I mentioned in the report on a meeting in Regent Street, last November, which would make a greater sensation in a family than any now Geranium or Pelargonium—the little red,

Currentlike fruited *Capsicum*, which nearly choked me from merely tasting it incautiously. One of the earliest "contributors," a nobleman's gardener, asked me, at the time, if there was any possibility of getting at the seeds of this fiery *Capsicum*, as it would be so valuable in families for making Chili vinegar, and for mixing in India pickles, and for making one's own Cayenne pepper. I took the hint, sowed all my seeds of it, and now I have three plants well established in sixty-pots for every one who helped me, but they will not fruit this season; and as they may require a warmer place than the greenhouse in winter, all the contributors may not be able to keep it for another year; therefore, if such of them as can do so will let me know from which of the London nurseries they get parcels down this autumn, I could send a pot for each of them to such nurseries, which would be the cheapest way to receive it, or I can send it direct if they wish it. I do not know that it would suit nurserymen to have a pot for trial; but I am going to Clapton this week, and will take a pot for Mr. Low, and Mr. Jackson here will have a pot of it; all the rest of them must let me know if they wish for the breed. I do not mean to pay off the nurserymen who helped me so handsomely in this "hot-haste" sort of way; something better for them may fall in my way before long. If not, they must take the will for the deed.

One more saying, and we shall take the long vacation. The Experimental is not my property, neither have I got a lease of it; I may be turned out of it by one stroke of the pen, or by a stroke of bad policy. A man who has been so long in service as I have been ought to know, by this time, that it is bad policy to have "followers" wherever one has a footing; therefore, lest I should lose a very good thing by it, I have resolved to have no "followers" into the Experimental; but I reserve a certain privilege in favour of the contributors, any of whom may ask for information about it at any time, although they cannot see it; and contributions will be received from them in future, and from them only, without some kind of charge, which will go to pay the piper and the Experimental-list for the time being; that is to say, if any one wishes his best seedling to be proved in the Experimental, or his or her name to appear in the "Chronicles of the Experimental Garden" as a patron of our art, a moderate fee will be charged, to be paid in advance. Whenever I shall give notice, in future, of the want of some plants or seeds for this garden, such notice must be understood to reach the contributors of 1856 only, with the above "limitation."

I have many things to say anent the contributions in hand, that must stand on till the frost and snow come; but I may remark, that too much stress is laid on "seedlings" all over the three kingdoms. A man raises a good seedling from seeds saved in his own garden, and forthwith he names it; a new name is in the market, the "seedling" sells well, but the buyers, to their mortification, find out, but too soon, that the very same kind was in their own gardens for the last ten years. A round of bad names gives rise to worse feelings, till they reach the ears of the "first person singular," who declares, upon his honour, that the plant was his own raised "seedling;" and so it was, sure enough, but he ought to have first acquainted himself if such another seedling was already on the turf. I know from forty to fifty kinds of Geraniums, for instance, which will produce seventy-five per cent. of seedlings as true to kind as any wild species, any one of which might lead an honest man into a hornet's nest. If I had my own way, I would scratch the words species, variety, and seedling, out of all books on the flower-garden, and hand them over to the florist. Nature has no such distinctions at all; every seedling in nature is a *kind* of plant; every variety in nature is a *kind* of plant also;

and every artificial or natural species, so called, is no more than a *kind* of plant. Confusion is caused by giving the same name to two kinds, as *Defiance* and *Scarlet Defiance* Geranium, two as distinct as *Baron Hugel* and *Compactum*. The two are scarlet, and who knows which is "Scarlet Defiance?" *Defiance* has the largest flower of all the breed; *Scarlet Defiance*, which is no more scarlet than the other, is a small flower, with a florist's shape. *Globes*, again, are in great confusion—*Globe Compactum*, *New Globe*, and *Globe Superb*. *New Compactum* and *Compactum superb*, all for two kinds. *New Globe* is not much; *Compactum Superb* is a fine thing, and these are the true names.

The richest individual flower I have is a kind called *Ethel*, or *Miss Ethel*, cast from Shrubland Park, but I do not expect it to bed on our soil, being too slow of growth. *Col. Leveson* is the best pink, or rosy-pink, after *Lady Middleton*, *Trentham Rose*, and before *Le Titian*, *Trentham Rose* being *Lady Middleton* with a dwarf habit. *Trentham Rose*, 1855, is of the same close habit, with more red in the flower—two excellent kinds for such heavy or wet soil and climate as those of Trentham; and *Trentham Scarlet*, 1856, is the best bright scarlet flower I ever set my eye on, with exactly the same dwarf habit as the *Trentham Rose*, and all from my own model-habited kind, named after *Lady Middleton*, reduced in strength to suit Trentham Gardens. This is the kind of practical knowledge we stand so much in need of at the present day—"Tell me your soil, subsoil, elevation, climate, and county, and your taste in colour, and I shall produce you a kind of Geranium to suit." That is exactly what Mr. Fleming has been aiming at since we put up our horses together ten or a dozen years back. The old man is Beaton, certainly, but he is not beaten yet; his strength "is coming," like the good times, or like the bad times for many, when I shall drive all the present Geraniums out of all the gardens in Europe at least.

There is a capital style of scarlet bedder at Althorp, the Northampton seat of the Earl Spencer. Mr. Fish spoke of a bed of it; he saw them two years since, and I am indebted to Mr. Judd for a bed of it. Our soil suits it to a nicety.

The best judge cannot say from one or two plants on a border which are the very best bedders; but from one plant, which is in a direct line from my office window, I would say that the *Richmond Gem* would make the very best bedder of all the coral-stalked kinds, not forgetting *General Pelissier* himself, by the same fortunate grower, Mr. Kinghorn.

By-the-by, can any one tell me if *Harkaway* was by or from one of the early coral-stalked kinds? *Lucidum* to wit, which I have not seen since 1840. It was then in wooden rustic work, in the garden of the Rev. Mr. Williams, of Hendon Rectory, near Edgware, and Mr. Lawrence was the gardener. If either of them see this, I would knock out a bar in the garden gate, and take *Lucidum* in without a premium, knowing the Rev. gentleman would like to oblige me, although I once put him to the expense of some thousands, competing about a certain tribe of curious plants. If that, or the like of it, was not the beginning of *Harkaway*, I am out in my study book, and should like to be "taken in" by some one who knows how.

Bishopstow Scarlet is a good kind, but is in sad confusion. I have four kinds under that name, all from good reliable sources, and if I am right as to the kind, the mother has no pollen, and bears a celebrated foreign name. By this the person who raised *Bishopstow Scarlet* will know if I have his seedling true, and a line to that effect would enable me to give it a fair character.

Glowworm, *Highland Chieftain* (not *chief*, which is nonsense, there being no such "chief" on earth), *In-*

dispensable, Emperor Napoleon, Dazzle, Royal Dwarf, Princess Royal (not Conway's), *Baron Hugel, Harkaway, and Collins's Superb*, are all kinds peculiarly fitted, by strength and stature, to become "yearly tenants" of pincushion beds all over the three kingdoms. Now, if you should ever adopt our pincushion-bed system, the most useful and genteel for most places, recollect this one thing in particular—that if you plant out more than two opposite or match beds with one kind, or one seedling, or one species, or one variety of any one race of plants, people will go away and say, "All very fine, and that sort of thing, but they are (meaning you) wanting in resources." D. BEATON.

HOUSE FOR EARLY FORCING.

"I HAVE a Vinery, one of a range of lean-to's, built on slightly sloping ground. The one in question is for early forcing—twenty feet by eighteen deep; walk down centre; border seven feet wide on each side; power of extending front border outwards; back border not filled with soil, because I have no confidence in Vines so grown; four-inch pipes (flow and return) run down walk and round front border. The heat is not sufficient; the furnace and boiler are just below the back corner of the house; the chimney is built on the *outside* of the wall. Could I take the smoke by a flue round the back border, and so increase the heat when required? If so, should the flue be brick-work or earthenware pipes? What is the best thing I can do with the back border? Would it be well to make it into a pit for leaves or other bottom-heat by fermentation? In other words, if my note is intelligible, what would you do with such a house, where early forcing of fruit is the desideratum, and not flowers? Aspect of house due south. Saddle boiler some feet below level of walk.—M. P."

There are several ideas that suggest themselves respecting this house that may be worth mentioning for the sake of those who are thinking of building.

1. For early forcing the roof of such a house is too flat, and more especially as there is no upright glass in front. The back wall will be only six or seven feet above the front one, and, therefore, the house partakes rather of a pit character. For ripening Grapes in August and September such a house would answer admirably; to ripen them in March and April would require more skill and care, though by that care good gardeners get fine Grapes early in any house. From being low, less heating surface is required than if the house was lofty and exposed to a frosty wind, as well as the cooling effects of radiation of heat from the glass. Were such a house sunk two or three feet in the ground, it would be more economically heated still, and it would be very easy to cover at least the front part of the glass with shutters, straw covers, or calico blinds, or mats, or a cover with a roller that would go over the whole house. I was lately applied to about a house almost identical with the present, and in which the proprietor complained that shelves of Strawberries, suspended at intervals of two or three feet along the roof, and from which he expected ripe fruit in February and March, were nearly all barren, the flowers refusing to set. His object was to have these Strawberries before the Vine leaves got very large to shade them, and the gardener got blamed for incapacity, when, unless in a very bright winter, he had not a chance of meeting his employer's wishes. The best position for Strawberries in such a house would be at a short distance from the ridge at the back wall, because there the plants would have all the light transmitted through the glass, and a considerable portion reflected from the back wall. I may mention here, in passing, that several subscribers have taken the trouble of pointing out to me that a late leader in a contemporary has so simplified the matter of *Strawberry forcing*, that all our minute

directions are so much waste paper. Without minutely entering on the subject, I have merely to state, that what is peculiarly good in the mode so recommended is *not new*, but has been practised by myself and others for many years, and also recommended long ago in these and other pages; that whoever follows that system, and expects early fruit, will know what disappointment is; and, finally, that the much-praised mode of forcing, to secure fruit towards the end of May, is *no forcing*, properly speaking, at all, as an octogenarian friend of mine manages to get them as early, if not earlier, on a common border, by covering the plants with a garden frame. This, however, by the way. In the case of the gentleman I have referred to, any alteration I might suggest, provided the present roof could be used, was to be carried out, and there was no necessity for raising the brick wall, as that was a fixture. Well, by means of a few posts and a ridge board, the north end of the rafters and sashes was raised from three to four feet, and a short-hipped roof of asphalt, whitened inside, connected the ridge board and the wall (glass would have been better), and since then the Strawberries have set very fairly, because the rays of light, instead of striking them faintly and very obliquely, came upon them nearly perpendicularly in the early months when they were coming in bloom. In such a case more heat was required, because there was a greater radiating surface. The great fault of all low, flat roofs, when used for early forcing, is, we cannot get direct light in proportion to the heat it is necessary to give.

2. The border seems to be elevated above a mass of rubble quite correctly, but there is no appearance of a drain, which would not be wanted if the subsoil was an open gravel or chalk, but which would be necessary if at all stiff and tenacious, and might either be brought along the front of the house, or taken through it to the back, where the ground seems to have a natural fall. Everything in the shape of stagnant moisture should be avoided.

3. The seven-feet border inside, if supplied with fertilising material on the surface, or rich manure-waterings in the growing period, will be amply sufficient space for the roots of Vines to fill such a house, though there is no objection whatever to have the front wall on arches to let the roots out, if only a moderately early crop was required. For a *very* early crop I would prefer the border being entirely inside.

4. Unless for early forcing, say, commencing in November, the piping ought to be sufficient; in fact, it ought to do even then. Four four-inch pipes in such a space ought to do the work; and the boiler seems to be placed all right. I rather suspect that the pipes along the front and under the pathway do not heat equally well, either owing to the way in which the pipes are taken from the boiler, or from air being enclosed in some of the ways so frequently referred to, the remedies for which have often been given.

5. Is there any reason why the front pipes should not be on the same level as those beneath the walk, or those now beneath the walk elevated to a similar level with those in the front of the house? There is no necessity for these if air pipes are properly secured at the highest points, or there is an open cistern there. If the front pipes are lowered, there would be a loss of some eight or twelve inches in the width of the border; but for very early forcing there would be the advantage, that the pipes in front, as well as those beneath the path, would act on the soil in which the Vines were planted. In some such arrangement as that which now exists we have seen a house worked admirably by making the two front pipes flow-pipes, and the low ones under the path return-pipes. All pipes that are such act more slowly on the atmosphere of a house than those placed above the surface of the soil or flooring.

6. "The back border is not filled with soil, because I have no confidence in Vines so grown." Will you kindly tell us why? Mr. Glendinning, according to report, showed very fine Grapes lately planted against the back wall of such a house. Such an example is quite in unison with our own experience. If I had a choice at all, I would prefer the north side to the south side of such a house for having my Vine-border in, more especially if the Vines were planted and kept some four feet apart, as then the sun's rays would strike the soil on the north side more powerfully than on the south, while the root, from being brought down the rafter, would be more inclined to be robust and short-jointed. I do not think the matter is of very great consequence, but if I had a stronger faith in the one border than the other, it would be in the one in which our correspondent has no faith at all; and as we are all working for the best, I, for one, shall be glad to know the reasons on which that faith rests. Whatever may be said of the consistency of sticking fast to opinions, I hope that he will never support any practice or principle when another has been proved superior.

7. Although there ought to be enough of heat from the pipes for ordinary purposes, still, there can be no question that much of what now goes up the chimney would help to warm the house if a flue went along close to the back wall, and even returned to the chimney, if that is close to the furnace. I would prefer small brick flues to earthenware pipes. Were such a house presented to me to make the most of for early forcing, as the front border is there, I would let it remain; but as the heat is defective, I would take a flue through the centre of the back border, and I would either enclose it in a chamber, with holes to let out the heat, or I would surround it with clinkers, brickbats, &c., as open as possible, with finer gravelly material on the surface, and on that, again, have sand, or tan, or half-spent tree leaves, &c., and on that border I would have pots of Peaches, Nectarines, Figs, &c.; or I would grow crops of French Beans, or even Cucumbers or Melons, or Pine Apples if wanted. To secure bottom-moisture, water could be poured among the stones without touching the flue. Any or all of these things could be grown in such a house, provided the Vines are, at the least, four feet apart; they would be better to be five or six when such undergrowth crops are expected to do well. Where there is skill and enthusiasm, it is amazing what can be got out of such a single house. As a general rule, however, the proprietor, in such circumstances, must be satisfied with quantity and mediocrity, instead of first-rate excellence as to quality. From shelves suspended from the roof good Strawberries can be obtained until the leaves of the Vines get half their full size. After that the fruit will swell, but will have little flavour; and fresh plants set in, however well prepared previously, will almost be certain to go blind, and refuse to set, because the heat is too powerful, and the shade too dense. Some time ago, a gentleman, who owned he got fine Strawberries in April, complained he could get none in the beginning of May, and on the principle, almost universally acted upon, that gardeners, with their experience, their ideas, their patience, their time, especially when they expect to get a pair of slippers on and be cozy, are entirely the property of the public, to be quizzed and questioned, turned as much as possible inside out, and made available in every possible way, such as no other professionals, that I am aware of, would submit to, without hinting to their customers something about the conditions. This gentleman was extremely anxious to find out the cause of failure, when the simply noticing the roof of his glass house, so densely packed with foliage as to make the inside a shady retreat, would have at once told him that, with a sufficiency of hot piping and moisture, he might

as well have filled with Strawberry plants his opaque-roofed stable, and expected fine fruit from them.

R. FISHER.

ORCHIDS BEARING COOL TREATMENT.

(Continued from Vol. XV., page 293.)

LEPTOTES BICOLOR.—Plants from hot climates may or may not be, comparatively speaking, hardy. Who that has thought about the matter at all does not recollect some plant or other that was carefully cultivated in the stove, but, subsequently, proved to be at least hardy enough to bear the greenhouse temperature? I am old enough to remember the *Aucuba Japonica* treated as a greenhouse plant, and have heard my father say, when he was young, it was treated as a stove plant; but how stands the case now? This very *Aucuba* is hardier than the common or Portugal Laurel; in fact, I never knew it injured by frost, however severe. So I have no doubt there are many plants with much hardier constitutions than we are aware of. Hence it is advisable, whenever any plant becomes old, scrubby, or unsightly, instead of casting it to the rubbish-heap, to plant it out in a poor, stony soil, in an elevated yet sheltered situation, in order to prove what powers it possesses of resisting cold. So in Orchid culture it is a matter of some importance to ascertain the degrees of cold any species will bear without injury. It was by a trial of this kind that it was discovered that the pretty dwarf Orchid *Leptotes bicolor* is one that will not only bear, but actually thrives best with a cool treatment. Terrestrial Orchids that are deciduous may be expected, when in a dormant state without leaves, with their pseudo-bulbs underground, to live in a low temperature if kept above the freezing point. Now, however are we to account for a succulent, fleshy-leaved Orchid, as this *Leptotes* is, thriving better in a greenhouse than in a stove, though it is a native of Brazil, where the temperature is frequently as high as 120°? Yet this is an undoubted fact, as any one may have an ocular demonstration of if they will visit the Victoria Nursery at Uxbridge, and ask to see the specimen of it there. It is a very pretty-growing plant, with round pseudo-bulbs, channelled on the upper or leaf part. The flowers spring from the lowest part of this channel, and, as the specific name imports, are two-coloured. The sepals and petals are of a clear waxy white, whilst the lip or labellum is of a pleasing rose colour. The pseudo-bulbs grow close together in a cluster, and the thick, fleshy, channelled leaves on the top lean a little backward. Each bulb has only one leaf, so that it forms a neat, handsome plant. It is best cultivated in a basket suspended from the roof amongst fibry peat, pieces of charcoal, and broken potsherds. Like all the rest of the tribe, it requires a season of growth and a season of rest, which a cool house affords it admirably. The growth is to be effected in summer, and the rest in winter. Water should be given freely when growing, and never wholly withheld even when at rest; but in that state it should have no more than is sufficient to prevent it from actually shrinking.

There is a variety named *Glaucophylla* (glaucous-leaved). The labellum of this is white, and the leaves are as if they were powdered over with a white powder; they have then the colour which botanists denominate by the term glaucous. This species is very rare in cultivation. I saw once a small plant of it in J. Bateman, Esq.'s collection at Knypersley Hall, near Congleton; but that, I fear, is lost, as many a rare plant has been, by being nursed too much.

LEPTOTES CONCOLOR (one-coloured).—This species is from the Organ Mountains in the Brazils, and is very like the preceding species, only it is smaller in all its

parts, and, besides that, has pure white flowers, with the exception of a small dot of purple at the base of the labellum. Like the variety of *L. bicolor*, it is very rare, yet it is quite as hardy as the one just named, and as easily cultivated; but the fact is, it is rare even in its native habitat, and is but seldom imported. There was lately a nice little plant of it at Mr. Rueker's, Wandsworth; but whether it is yet alive I know not.

LYCASTE HARRISONIÆ *syn.* **MAXILLARIA HARRISONII**.—A fine old species, native of the Brazils. I have seen large plants as much as two feet across, and have in many places heard the complaint that this old plant seldom flowers. The reason of this is the old story—they have been grown in a too high and continually sustained temperature. The fact is, this plant is very good-natured; it will bear ill-treatment with indifference, growing on still in spite of either neglect or too great kindness; but unless it is treated properly, though it may live, and even grow, it will not flower. Grown in a cool house, kept warmer, of course, in summer, and rested in a much lower temperature in winter, every pseudo-bulb made the preceding summer will flower as certainly as the seasons come round. Now, when a plant has become very large, there will be in the centre a large number of old, healthy pseudo-bulbs, with or without leaves. These are of little or no use to the later-formed bulbs. Hence, when the plants are potted, these old fellows should be cut off and taken away, leaving about three good sound ones at the end of each rhizoma. The sound bulbs should be potted altogether, the leading or last-made one on each rhizoma pointing outwards towards the rim of the pot. The old ones may be thrown together on the top of a large pan, or wide-mouthed pot, to make fresh growths, and thus form a second specimen; but it will be at least three years before they produce pseudo-bulbs strong enough to flower. This plant is well worthy of every care; the flowers are very large and very powerfully fragrant, the sepals and petals are cream-coloured, and the labellum is prominent and of a purple colour.

LYCASTE SKINNERII (Mr. Skinner's).—Let not the more humble grower of Orchids envy his more wealthy neighbour because in his cool house he cannot grow the *Saccolabiums*, *Aërides*, or *Vandas*. Here is a species equal in beauty to any of the more aristocratic species from the hot jungles of Java or Borneo. I know no Orchid more beautiful than *Lycaste Skinnerii*. It is a native of the more temperate climate of Guatemala, and, in consequence, has been found hardy enough to rank amongst those bearing a cool treatment. The sepals are pure white, tinged with crimson at the base; the petals are beautifully suffused with a rosy hue; and the lip is thickly studded and streaked with the most brilliant carmine. The whole flower frequently measures from four to five inches in diameter, growing on the top of a stem nine inches high, elevated above the foliage. It flowers, too, at various seasons, from May to September, and will thrive best in a moderate temperature. When growing, 60° to 65° will be sufficient heat; and when at rest, 45° to 50° will be the right heat. It thrives well in the usual compost of fibry peat, broken pots, and a small admixture of sphagnum added. I have also found half-decayed leaves, mixed with the above, have caused the pseudo-bulbs to grow larger and flower finer. When growing vigorously it requires a plentiful supply of water; but when at rest, in winter, it should be kept quite dry.

MILTONIA SPECTABILIS (showy).—Undoubtedly this is the hardiest of the *Miltonias*, a beautiful genus of Orchidaceæ. I have grown it myself in a temperature of 45° to 50° in winter; and though this species is remarkable for having its pseudo-bulbs almost always yellow and sickly-looking, the plants that I so treated were a fair colour, and kept plump and healthy, and

flowered well when the natural increased heat of spring increased the heat of the house in which the plants were growing. I am satisfied it will thrive better in a cool house than a hot one. The flowers are solitary, opening out of a spathe that rises from the axils of the upper leaves; the sepals and petals are white; the lip is very large, with a large purplish-violet blotch, dense-coloured in the centre, growing lighter towards the margin. It requires to be grown in the shade to keep the plant a good colour.

ODONTOGLOSSUM CITROSUM (lemon-scented).—This is a most lovely Orchid, with a pleasing perfume, something like lemons. I had the honour of blooming it the first time in England, when I was gardener to T. Broeklehurst, Esq., at the Fence, Macclesfield, in 1842. The flowers are large, and of a pleasing snow-white, suffused with rose colour. The raceme hangs down gracefully, and is more than a foot long, producing frequently as many as a dozen flowers on each stem. Though a native of Mexico, this charming Orchid has proved sufficiently hardy; indeed, thrives better under a cool treatment. It should be grown in a pot well drained, and the plant should stand upon a little hillock, raised considerably above the rim of the pot; this will prevent the young shoots from damping off by water lodging in their leaves. Like all the rest of the tribe, it should be kept moderately dry when at rest in winter.

ODONTOGLOSSUM GRANDE (magnificent).—This is rightly named, for it is a truly magnificent species. It is a native of Guatemala, where it was discovered by that successful collector, Mr. Skinner, and sent by him to James Bateman, Esq., Knypersley Hall, who first flowered it. The flowers are very large, from five to six inches across; the sepals are mottled and barred with rich brown, like the back of a tiger, on a yellowish cream-coloured ground; the petals are rich brown, tipped with yellow; the lip is short and broad, shell-like in shape, blotched with light pinkish-brown on a white ground. Its rank as an Orchid is first-rate; the bloom continues long in freshness, and, the more highly to recommend it, it does not require a high temperature, but will thrive better in a low one, rendering it a valuable and effective plant for the cool house; 55° to 60° when growing, and 40° to 45° when at rest, are the proper temperatures for this fine Orchid. I cannot too strongly recommend it to the amateur ambitious of growing a few choice Orchids in his greenhouse. It should be grown on a block set in a pot amongst broken crocks; or, if grown in peat, in a well-drained pot, it should be set upon the top of a flat hillock, raised considerably above the level of the rim of the pot, and kept regularly watered when growing, and well shaded from the sun.

ODONTOGLOSSUM PULCHELLUM (pretty).—The delicacy of the flowers of this pretty species is very remarkable. They are produced on an upright spike, or raceme, from six inches to a foot in height, and the flowers are of a delicate satiny white, almost transparent, excepting the crest of the lip, which is of a bright crimson. Though the individual flower is small (not quite an inch across), yet they are so beautiful and so many on each spike, that it is a very desirable, pretty species, worthy of a place in every collection, however small. The same temperature, winter and summer, as for the preceding species suits this also. It should be grown in a pot, in rough peat, and not much raised. The pseudo-bulbs are small and thickly placed together; hence, a small pot will hold a fair-sized plant. The plant is very green all the year round; consequently, it should never be allowed to become very dry when at rest.

T. APPLEBY.

(To be continued.)

CULTURE OF HOYA BELLA.

THIS charming plant, which has been compared to an "amethyst set in frosted silver," is not generally well grown. When attempted to be cultivated in pots in places where close attention to proper soil, heat, potting, and watering cannot be given to it, the growth is far from satisfactory. In fact, under but middling management its life is short, and death overtakes it before its beauties are developed to any extent. It is true, at the great exhibitions round London we see large, healthy, well-flowered plants, many of them three feet high, and two or more feet through; but in many places in the country such fine plants are not to be found. In former papers on the culture of this really beautiful plant, I have given directions for its culture both in pots and in baskets, for either of which modes, if well done, it is admirably suitable. Notwithstanding this, in my various travels and visits to gardens, I very seldom meet with even a tolerably well-grown and well-bloomed plant. When I ask the question, How does it happen that your *Hoya bella* does not thrive? the answer is, "Oh, it is a wiffling plant, and when it becomes of any size it dies off at the root, and in baskets it does not thrive well." Now, as this is one of our best lately-introduced plants, I am truly sorry to find its culture, with few exceptions, so unsuccessful. No doubt its roots are tender, and soon killed by too much water, and if too little is given, the plant will not grow freely or bloom well. This problem, then, of growing it well with ordinary care, seemed to me, till lately, extremely difficult to solve. I say lately, and the reason for this remark has drawn from me these somewhat lugubrious statements of the present state of *Hoya bella* in the country.

I am happy to inform our readers that I have discovered a certain method of growing it successfully, but I claim no merit in the matter, the credit belonging to Mr. Acomb, gardener to O. March, Esq., of Beech Grove, near Leeds, in Yorkshire. I visited that place this summer, and saw a beautiful plant of it well grown and abundantly bloomed. Every shoot had many bunches of flowers, and the foliage was as healthy as possible. The anxious cultivator who reads this will be ready to cry out, How is it done? Can I do the same as well? I answer, Yes, and this is the way.

Procure a good plant of *Hoya Bidwillii*, and inarch, or graft, a branch of *Hoya bella* upon it. The former species is a strong grower, and imparts its strength to its weaker relative, and the consequence is, a stronger growth and a more hardy plant. The one I saw was two feet high, regularly branched on every side, the longest branches at the point, near the insertion of the graft, gradually shortening up to the top. Sufficient space was left between the branches to allow room for the foliage and the clusters of blooms to be seen; thus the plant forms a beautiful pyramid, the most beautiful of all forms that a plant can assume or be trained to.

I am pretty confident that this grafting of tender-rooted plants will be found highly conducive to success in their culture. The old *Hoya carnea* would, no doubt, make an excellent stock to graft any more tender *Hoyas* upon, and, perhaps, be superior to the stock on which my friend Mr. Acomb has grafted *H. bella*.

Most of our readers will be familiar with fine plants of *Epiphyllum truncatum* grafted on *Pereskia aculeata*, *Cereus speciosissimus*, and other allied plants. There is no question that many other delicate plants would thrive much better if grafted upon stronger-growing species. Let some of our curious and enterprising cultivators but turn their attention to this subject, and I have no fear that we shall obtain still more successes in growing what have been hitherto considered difficult-to-grow plants.

THE CANNON HALL MUSCAT GRAPE.

If this Grape could be managed so that a sufficient quantity of berries could be set on every part of the bunches, and the gaugrenous spots prevented on each berry, it would be the finest Grape in the world, both for size of bunch, size of berry, and rich, vinous, musky flavour. When even in tolerable perfection, I know no Grapo to equal it. Unfortunately, it is what we call "a bad setter;" that is, the fertilising powder is either deficient in quantity, or has no power to cause the seeds to mature. Hence the berries either drop off, or are ridiculously small. To prevent, or rather, supply, this deficiency, it is advisable to apply pollen (the fertilising dust) taken from some other variety. The pollen of the common Muscat will answer well, or even of the still more common Black Hambro'.

The second desideratum, namely, the preventing of the blackish broad spots which often appear on the finest berries, has just been attained by the gardener above-mentioned (Mr. Acomb). He says, it is caused by an acrid liquor generated in spots under the outer skin of the berry. Whenever he observes the blister (for it has much that appearance) he opens the skin with a pin's point, and lets out the liquor, which cures it completely, leaving only a small scar. I saw several berries so punctured, and they appeared quite healed. He had practised this for three years with perfect success. Let every grower of this fine Grape try this simple remedy for this destructive disease. I have no doubt he will be equally successful. T. APPLEBY.

BARLEY-SUGAR FOR BEES.

PERHAPS some of the readers of THE COTTAGE GARDENER may be surprised at seeing my name at the end of a communication respecting bees, and may be inclined to imagine that it must be a printer's error, and that it has been *transposed*, by mistake, from an article on roup, soft eggs, or Spangled Hamburgs. But although I have never, to my recollection, written a line in this publication on bees, I am as ardent an admirer of them as of poultry, and hope, in some short time, to send a few odd notes respecting them. My object in writing this is simply in reply to a query in your last, to state that barley-sugar made according to the recipe given by Mr. Payne, in "Bee-Keeping for the Many," page 15, or by Mr. Taylor, in the "Bee-Keeper's Manual," page 155, if *boiled sufficiently long* to assume a pale yellow colour, will not candy, but absorbs moisture so quickly from the air that the bees have no difficulty in feeding upon it—a fact which may be readily observed by placing a stick on the alighting board, and noticing the rapidity with which it is removed. Mr. Taylor's recipe is two pounds of loaf-sugar, and half-a-pint of liquid, consisting of one-quarter best vinegar and three-quarters water, the whole boiled together until it assumes a yellow colour, when it is to be poured out on a well-greased plate, and cut up, before cold, with scissors into strips convenient for insertion into the hives. Should it candy on cooling, it is a proof that it has not been boiled long enough, when it should be returned to the saucepan, without water, and boiled again.

If well prepared, this compound is most acceptable to the bees. I always give a quantity when hiving a swarm, and with what results I propose shortly to inform my readers. Suffice it to say, that one swarm, which I hived on June the 3rd, has this season increased so rapidly, that, spite of enlarged room, it has thrown off three swarms, and still remains sufficiently numerous to stand the winter, and has a small supply of honey in the glass super.—W. B. TEGETMEIER.

COLLETTIA SERRATIFOLIA.

THE genus to which this species belongs was named by Commerson to commemorate his brother botanist and friend, M. Collet. It is included in the Natural Order of *Rhamnads*, and in the *Pentandria Monogynia* of Linnæus. It was called *Rhamnus Spartium* by Dombeyer, and was received from Dr. Fischer, of St. Petersburg, on the 27th of August, 1842, under the name of *Discaria crenata*.

A Peruvian and Chilian shrub, branches bright green, like those of a Broom; leaves opposite, shining, bright green, crenated, blunt, furnished at the base with a pair of erect brown stipules, which remain upon the stem after the leaves themselves have fallen. Flowers greenish-white, axillary, clustered, with their stalks not longer than those of the leaves, extremely fragrant. When the plant is old and stunted, its branches become spiny; when vigorous, no spines are formed.

In the garden it forms a moderate-sized deciduous shrub, and is nearly hardy, living well out-of-doors when trained against a south wall. It increases by seeds and cuttings, but unwillingly. The flowers appear in May and June in great abundance, and being remarkably sweet-scented, give the plant much value either for growing in pots, or for planting against a conservative wall.—(*Horticultural Society's Journal*.)

ODDS AND ENDS.

CURE FOR THE THRIPS.—I have read of several, and have tried them, but not with good success, in getting rid of this pest, until acting upon a plan of my own. It was this: I boiled eight ounces of tobacco in three or four gallons of clear soot water, adding a little soft soap and sulphur, mixed together previously to putting it in the water; then, when about 70° or 80° of heat (in a convenient large pot or deep tub), I dip the plants in it, keeping hold of the pot with one hand, and taking hold of the stem of the plant with the other, and carefully moving it about so that all the foliage is well bathed. I did not syringe them afterwards. I believe it effectually destroyed the Thrip in every stage and state, and I have never seen any appearance of it since, which is eighteen months ago, and my plants have been in perfect good health ever since. They are chiefly Azaleas. About two years ago I had the mildew in my Vines. I boiled a large pan of water, and poured it into a tub, or pail, upon a good handful of Alder leaves, so as to make a strong decoction, and when cold I syringed the Vines with it for two or three days, and the mildew entirely disappeared. This was before the fruit was at all coloured for ripening. If the disease was to show itself again, I should apply the same remedy. I have read various nostrums for this, that, and the other, some good, but many utterly worthless, and worse than that. The two former ideas originated with myself, and I am perfectly satisfied with their efficacy.

THE TASTE OF TURNIPS IN BUTTER.—Saltpetre is often recommended and used. I believe there is nothing equal to using sour buttermilk. I have it from the best authority, from those who, in the winter season, give their cows Turnips; yet their butter is perfectly sweet, and I have told several of my friends of it: they have adopted the plan, and it has completely changed it to be what it ought to be. It is used thus:—Save a pint or a quart of buttermilk, from time to time, on churning days, and put the buttermilk in the cream-pot, and stir it well every time the cream is added,



[Colletia serratifolia.]

and when churned the butter will have no taste of Turnips. If several cows are kept it will require more than the quantity stated. The good housewife will soon learn the lesson of regulating the quantity. I gave this to a friend and relative of mine (a farmer's wife) about a year ago. It more than surpassed what she anticipated in improving her butter, and it struck her that buttermilk might be turned to still greater advantage. Having some butcher's meat that had become tainted, she first washed it in the buttermilk, afterwards let it steep in some fresh buttermilk for about twenty minutes, and it was restored to perfect sweetness, whereas, before this process, it could not have been eaten. This may prove invaluable to farmers, or those who have buttermilk at their command.—BENJN. RAYNER.

PLAN OF A BOILER.

THE following is the plan of a boiler put up in one of the stoves in the Society's Garden at Chiswick, by Messrs. D. and G. Bailey, of 272, Holborn.

It is a cast-iron boiler, with a wrought-iron cover bolted on. Its presumed advantages are, that it is more economical than other boilers in its expenditure of fuel, as it exposes a very large heating surface to the fire; and as it contains but a small quantity of water, it heats quickly.

The pipe on the top, called the combustion pipe, is for the purpose of forming a current for the smoke through the centre of the boiler.

—(*Horticultural Society's Journal*.)

GENERAL NOTES FOR SEPTEMBER.

THIS season has been most favourable for gardening operations. *Potatoes* and other crops are coming off so early, on account of the hot summer weather we have had, that the very useful and necessary operations of manuring and trenching may be carried on at every favourable opportunity. To dig only one spit deep is not sufficient for ground intended for vegetable cropping; the roots range a long way in search of food, and even if the soil is shallow, and the subsoil ungenial, the bottom of the trench could be broken up and manured, and the top soil kept on the surface. No time should be lost in getting the crop of *Onions* stored when fully dry. As the ground from which they are taken is generally used for *Cabbages*, it should be immediately trenched up; if manure is necessary it should be laid on the top of the trenched soil and forked in. If, however, the ground was well manured for the *Onions*, it will be unnecessary to do so, for, if much manure comes in contact with the roots in the autumn, it induces a succulent, luxuriant growth, which renders the *Cabbages* more liable to injury from alternations of frost and thaw in the winter. The advantages of *deep digging*, trenching, and mulching, were very perceptible this season in places that had not had a good soaking of rain for months.

The principal crop of *spring Cabbage* should now be planted. The plants in the beds sown last month to be pricked out into beds a few inches apart as soon as they have expanded their rough leaves. The *Spinach* to stand the winter to be thinned to six inches, plant from plant. *Endive* may now be planted in some sheltered corner, to be covered in severe weather with fern or any dry litter.

All *dead or decaying leaves* of Brussels Sprouts, Brocoli, and other such crops, should be gathered and thrown to the dung-heap, and *Celery* be carefully earthed up as it may require it, and supplied with an abundance of water in dry weather. The best practice is to tie each plant up loosely with matting, having previously removed the suckers and small leaves, and then a little earth can be added every week as the plant increases in height. It should also be allowed to grow to a considerable size before earthing up, and be frequently soaked with water, as but little rain will reach the roots afterwards; it should likewise never be touched when the plants are at all wet.

To *prolong the beauty of flowers* this fine season to the latest period, it is necessary to remove decayed flower-stems, weeds, dead leaves, or anything that mars the effect, which should be as cheerful as possible even at the approaching dull season of winter. Continue to plant out *Pinks*, *Carnations*, and *rooted cuttings* of herbaceous plants. The plants already established in beds should be kept in a state of health and vigour by stirring the surface of the soil.

A few hints on taking off the *layers of Carnations* and *Picotees* may be acceptable. Having removed the layer peg which fastens the young plant, take the neck between the finger and thumb of the left hand, at the same time running a flat piece of wood, shaped like the handle of a

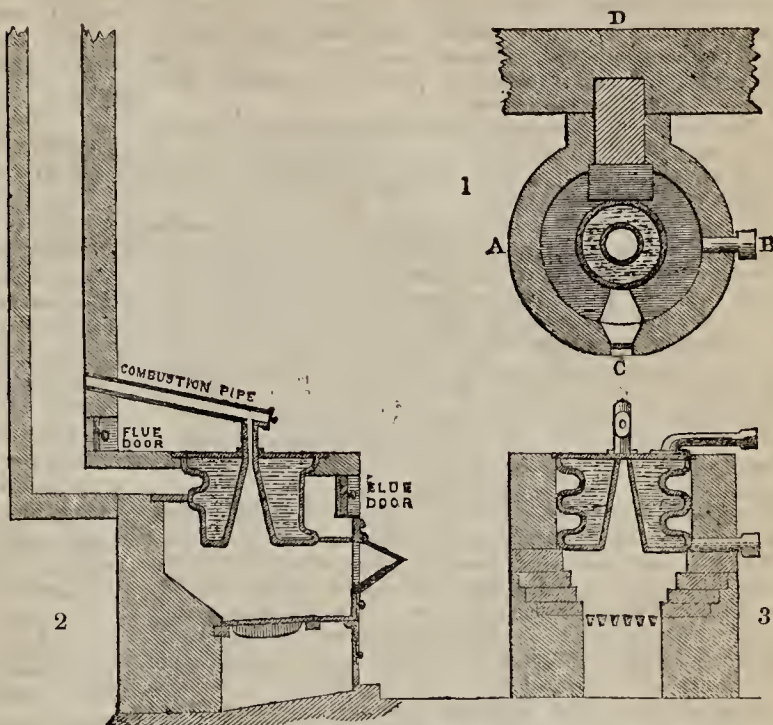


Fig. 1. A plan of the boiler. 2. A perpendicular section through A, B. 3. The same through C, D.

budding-knife, into the ground with the right hand, and prizing up the layer with a portion of soil to observe if it is properly rooted, and if so, cut it with a sharp knife from the parent plant, with about an inch of the old stem that connects it. When putting them into 60 sized pots place a piece of potsherd over the hole at bottom, then a layer of small broken crocks and the rough parts of old lime-rubbish mixed, about an inch in thickness; when the pot is half-filled with compost the layer is placed in the centre, spreading out the roots; then fill up with compost, fix each plant in an erect position by pressing it round the neck with both thumbs, give the pot a firm strike on the bench to settle the soil, and be sure that no part of the foliage is buried. When potted to be watered and placed in a close frame in coal-ashes for a fortnight; after that to be shaded from the midday sun, with plenty of air in the morning, by drawing the lights quite off the frames; and during the remainder of the day to be closed, with a little air left on.

Hyacinths, *Tulips*, and other bulbs for forcing should be potted as early as possible, placed in a cool frame, and then plunged in some porous material, such as coal-ashes, coarse sand, or anything which will serve to keep the roots cool and free from atmospheric changes, but which, from being moderately damp, will not abstract moisture from the roots, but keep them also uniformly moistened. The object is to produce a root action, that when heat is applied the leaves and flowers may possess greater vigour, in consequence of the roots being already in an active state, and in a condition to supply abundant nourishment.

As soon as the beautiful *Japan Lilies*, *Gladioli*, and all bulbous plants of similar habits have done blooming, they should be removed to the foot of a south wall to ripen their growth, to be watered moderately till their tops show signs of decay, when they may be laid on their sides till potting time.

To have a late bloom of *Fuchsias*, let a portion of the stock have their young wood cut back about one half; if placed in a little extra heat they will break again, and go on blooming till Christmas.

In arranging a variety of plants in a greenhouse, it will be necessary to bear in mind that some plants have not finished their growth yet, and that others will not set their bloom without free exposure to light and air. To treat properly a mixed collection of plants in the same house is a difficulty which but very few, if any, can entirely attain;

but, as a general rule, it is advisable to take care that all the early-flowering plants are accommodated with the best places in the house, that each plant may receive something like the proper treatment without interfering with the well-being of its neighbour, as much room for each plant as can be given, and that every plant, pot, &c., is perfectly clean before it is taken to the house.

The stock of *bedding out plants* for next season that are well established should now be arranged and placed in their winter quarters, with everything in readiness to afford protection.

It is almost unnecessary to direct attention to the *gathering of Apples and Pears*, as whoever is so fortunate as to have any fruit this season will watch them and gather them with care. If there are any vacancies on the walls, and fruit-trees to be planted, it will be time to begin to make preparations by draining the bottom, as without a porous bottom no good results can be expected to follow, and filling the holes with fresh loam, or by removing a considerable portion of the old soil and supplying its place with new.

If a *seeding weed* is now to be seen it is a sure sign of great neglect, as no season, for many years, has been so favourable for their extermination. A general clearance should have been made; and as a sign of the times and the necessity of destroying weeds, a circular, lately addressed to the county surveyors from the Agricultural Statistics Office, Dublin, is brought under the notice of the directors of railways, who are requested to have all weeds immediately removed which may be found growing on the sides, embankments, cuttings, and fences of railways, as the shedding of the seeds of thistles, docks, ragweed, and other noxious plants, which are fast approaching to maturity, must cause great injury to the occupiers of land adjoining those railways where these plants are not removed. What is so generally requested in that circular should be more particularly observed, that the slovenly holder of an allotment, who allows his seed-beds or boundary fence of weeds to scatter such enemies amongst his neighbours should be forthwith removed, and a careful supervision established to keep down weeds.—WILLIAM KEANE.

CAULIFLOWER AND OTHER WINTER-STANDING CROPS.

ALTHOUGH a never-ceasing care for the seasons that are to come always forms a prominent part of the duties of the anxious cultivator, yet there is a time wherein care for the present one is equally important. That time, however, is about past for the present season, and a due regard for the future, with all the necessary preparations that way, must now form the principal business of the day. The sowing of seeds and planting out of crops may be all regarded as preparations for another year. This, however, must be done, and, what is of more importance, certain works, necessary at this time, must be done at least within one week of the specified time, otherwise the result is seldom satisfactory. Cauliflower and Cabbage must not be sown sooner than a certain time, otherwise they do not succeed, and if later they are equally unfortunate, though in another way. A more strict adherence to well-established customs is more necessary at this time than at any other, for although there may be very little difference between a crop of Onions sown at the end of January, and one sown two months afterwards, such is not the case with Cauliflower to stand the winter, and as that article is one which it is necessary to have in perfection at the proper time, this article cannot well begin with a more important crop than this.

CAULIFLOWER.—The sort of half-poetic, half-floral name by which this plant is designated, together with its general utility, has rendered it a greater favourite than most common garden productions, and with its allied brethren, the Broccoli family, it is expected that a moderate-sized garden will furnish a dish of one or the other every day in the year. This I have often done; but it is need-

less here to say that the Cauliflower is the favourite; not but that a good white or cream Broccoli in the spring is equally useful and good; still, there is an anxious desire to taste the young growth of the current year, and the first Cauliflower at table is hailed with a pleasure second only to that with which Peas and Potatoes are ushered in for the first time that season. A failure, therefore, in Cauliflowers is a thing much to be deplored, and it is not easy to remedy any error that may be made at the sowing time, for, like most plants of the Cabbageworts it inherits the propensity, or rather, disposition, they all have to run to seed in early spring, when that propensity is not restrained by judicious management in the careful selection of plants for saving seed from; but even this will not prevent the plant prematurely running into flower-stems, when sown a few days too soon the preceding autumn. The precise time is, therefore, an important one for the unpractised hand to know, and though the practice of late years has been in many things to hasten the operations of several of the various works of cultivation, the sowing of Cauliflower and some other things has, perhaps, been retarded in like manner, when experience has proved it to be improper to do so too soon; besides which there are conditions in the growth of this plant which it is also advisable to adhere to.

In some former chapters of this work it has been pointed out that a grossly vigorous growth is not the one best calculated to stand a hard winter; it is, therefore, good practice to plant such crops as have to stand the winter only on a certain place on poor, light soil, so that the plant might consolidate its growth rather than expand it; and in no instance is this more necessary than in Cauliflowers, whose half-succulent, half-delicate condition renders them fit objects for a severe winter to act fatally upon when some restriction on their growth has not been made. Nevertheless, for other reasons, it is advisable to hasten their early growth by all available means for a certain time. With that object in view, it is therefore prudent to sow the seed on the best ground the garden affords, and to give it every chance of succeeding well, by either shading, watering, or covering, as the case may be, until the plants are up. This is on the supposition that the sowing day has been put off till the last moment. Now, to secure this, it is best either to sow under glass, or on the stale, dry ground on a south border, or in some other favoured spot, and the time to do it is about the first week in September. Some have even had good success by delaying the sowing until the 1st of October, but then the work was all done in hotbeds, and under circumstances expensive and troublesome; but by sowing on the 1st of September a well-prepared bed with good seed, and, if bright, sunny weather, shading a little afterwards, a useful result may be expected without much trouble. If the situation be a very late one, a few days sooner may be of advantage; but in all cases the fact must be borne in mind that it is small plants generally that stand the winter best, and not large, coarse ones; therefore it is only to attain a good germination of the seed, and good, early growth; thus it is advisable to sow on rich ground. Afterwards, when the plants attain any size, it will be prudent to plant them out on poorer soil, in order that a stiff, hardy habit may be attained before winter sets in, instead of a gross, fast-growing one. The obvious purpose if this will be easily seen, as the plants are expected not to remain longer than the winter months on their scanty pasturage, but, at the return of fine weather, to be planted out where they can secure greater abundance. Summing up the above remarks, the cultivator will see that the 1st of September is the time recommended for sowing the principal crop of Cauliflower to stand the winter (a few may be sown earlier); and that, when the plants are fit to plant out, a frame or bed, composed of not too rich a soil, where some protection can be secured,

may be prepared for them to be planted in; and at the fitting time in spring they may be planted out to where they are expected to form heads for table use. A portion may, however, be planted out in autumn at once, to where they are to remain, sheltering them with hand-glasses during winter; and if those hand-glasses were made to hold more than could afterwards stand on that plot, the overplus could easily be planted out elsewhere; but they must not be overcrowded, for, be it remembered, these are intended for the earliest crop, and must not be injured by neglect of thinning in due time. It might as well be said here, that when ordinary hand-glasses are used—say, of about two feet square—they ought to stand in rows about three feet apart in the clear, and the glasses nearly as much the other way. This will allow room to walk between them to take off and put on the tops of the lights, and to examine them from time to time, to see that they do not suffer from intruders or other misfortunes.

SPINACH.—This being an article which is fit for use at any time when it is large enough to gather, it is only necessary here to say that seed of the long-leaved kind, called Prickly Spinach, may be sown at various times from the middle of August until the middle of September, the earliest sowing being, perhaps, the worst for standing the winter; but it is of much less importance than the plant named above. An open situation will do; but if it can be accommodated with a border facing the south, so much the better; but it is not always that such borders can be spared for a crop not the highest esteemed. Drills a foot or more apart answer best; and the plants may best be slightly thinned when up a little.

ONIONS.—These, to stand the winter, ought to be sown the last week in August on good ground, and quite open and exposed. There is some difference in merit of the kinds that are sometimes sown; but if good, useful Onions are wanted next July, sow the Globe, White Spanish, or similar kinds. If, however, merely young ones are wanted during winter and spring, sow the Silver-skinned or Tripoli, both being hardier than the more esteemed garden varieties; but in most cases it will be advisable to sow both, and to use them accordingly.

LETTUCES.—The hardy varieties of this may also be sown now on a warm south border; in fact, this deserves as much consideration as the Cauliflower. The Hammersmith Hardy Green is the best; after that the Brown Dutch and a Brown Cos; the tender White Cabbage kinds being least advisable of any. But this subject shall be dwelt on next week. J. Ronson.

QUERIES AND ANSWERS.

GARDENING.

LILIUM LANCIFOLIUM CULTURE.

"I bought a plant of this Lily, and it flowered in my window the first year after I got it, but both last summer and this summer it has not flowered at all. Above every leaf there have come small lumps, like small bulbs with roots on, so I want to know what I must do to get it into flower next year. I broke several of the small lumps off, and set them, and they are growing into very nice little plants.—A LOVER OF WINDOW PLANTS."

[We can hardly tell you what is the matter, but you may safely proceed thus:—Water your plant as long as the leaves are green; when yellowish refrain from watering, and place the pot in a dry place. When the leaves are removed, place the pot in a cool, dry place, such as a cellar, where little or no frost can get to it. In spring, look at your plant frequently, and, as soon as you observe signs of growing, shift your plant carefully, breaking away part of the old soil, without injuring any of the fleshy roots; place the top of the bulb below the surface of the pot two or three inches. Use loam and peat, neither wet nor dry, and let all alone until the stems come to the surface; then place the pot in the light, and give water as it requires. Give it a top-

dressings several times of very rotten dung during its growth, to cause the stem or stems to come strong, and we trust you will have flowers to your heart's desire. If any roots, notwithstanding the deep potting, appear on the stem above the soil, earth them up. These roots issuing from the stem are of importance.]

GLADIOLUS CULTURE.

"I have a fine bed of *Gladiolus Gandavensis*, planted in February. Will you kindly mention whether the same bulbs flower another year, or whether the bloom is dependent upon the new bulbs of this year's growth? Would you also recommend me another variety for out-door cultivation?—AN IGNORAMUS."

[*Psittacinus* will be a good neighbour to *Gandavensis*. The tubers formed this season will bloom the next. If planted deep enough they may remain for years in the same place if protected from severe frost and stagnant water. In unfavourable situations it would be safest to lift them in November, though they do not often bloom so strongly after being thus removed.]

SPORT OF THE IVY-LEAVED GERANIUM.

"Miss Whyte encloses a singular specimen of an Ivy-leaf Geranium which she has just discovered in her garden; she sends the cutting off which she picked the flower, with three perfect crimson and two pink flowers. She has dropped a drop of gum in the petals, hoping to preserve them. The plant was a cutting from a crimson, and this is its first, and, at present, only flower."

[This is the first sport of the kind which Mr. Beaton has seen in the Ivy-leaf section, and he is very much obliged to Miss W. for sending it. Some violent force, or change, or unnatural condition of the fluids, or juices, causes those sports; but, whatever the cause, its explanation has yet escaped the researchers of science. Practically, these sports are of the greatest value in the flower-garden. It is now above 150 years since a similar sport appeared among Geraniums—a bad red changed into a good crimson "by some cause or causes unknown." Whether that first made efforts to return to the original, like the one before us, is not on record. Very likely it did, and we may owe to such changes the origin of some of the bedding sections, for which we cannot now trace a natural lineage. From this we ought to learn an important lesson, namely, to take the greatest care of every degree of a sport, until that degree, or our own skill, produces a better instance of that "limitation:" one chance lost with a transition sport may never occur again in a lifetime. The *Unique* section and some others produce similar instances to the one before us, which one will be made the most of in the Experimental, marked C. B. H., the initials of the place it came from.]

BEEES NOT FILLING A BELL-GLASS.

"We purchased a first swarm on the 4th of June, which was hived in a straw hive adapted to a bell-glass, which was placed upon it on the 25th, as directed in the Manual, and, as we supposed, indicated by bees clustering about the entrance. The communication between the hive and the bell-glass is an aperture of one inch and a half in diameter, and a zinc perforated ventilating tube down the centre of the glass, which, at this moment, is about one quarter part filled with comb; and there are indications of the comb being filled with, I suppose, honey, as particles of a yellow substance appear scattered on the sides of the glass and the edges of the cells, &c. I have this morning removed, for the second time, a number of the workers which lay dead at the bottom of the glass, and which the bees attempted, ineffectually or only partially, to remove themselves; a few I found brought through the hive and dropped in front of the entrance, but the main efforts of the creatures were exhausted in vain attempts to carry them up the glass, and dropping them when at the top. The bees have once completely deserted the bell-glass, but again returned to it when the dead bees were removed, and when again replaced to relieve the hive, when we found them clustering about the entrance and showing indications of swarming. What can be the cause of so many dead bees in the bell-glass, and what the remedy? Should not the bell-glass have been filled with comb or

honey before this? I think the swarm was always a strong one.—G. H. R.”

[The yellow substance on the sides of your bell-glass is *propolis*, a resinous substance which bees collect from trees, and use as cement for fixing their combs, and closing up apertures in the hive. It is different from wax, not being softened by warm water, and gives the hives a strong aromatic scent during hot weather. Bees carry home propolis on their thighs, as they do pollen, and, like that substance, it varies in colour according to the trees they frequent.

For dead bees to be cast out of the hive is a common occurrence, especially those of the first swarm of the season, in which there are a great number of old bees gradually dying off. The bees in your glass were confused by the light, and expected easy escape with their dead until they came against it, like wasps, who always fly to the top of a hand-glass trap. Your hive, being a first swarm, contains an old queen, who may have deposited eggs in the queen's cells for brood to succeed her; if so, the bees show signs of swarming, which you justly notice by their clustering and idleness. That propensity in bees is a great drawback to the depriving system, and may account for your bell-glass not being sooner filled with honey. If your hive swarms, you had better restore the bees to the stock. See our late article on this subject.—J. WIGHTON.]

DARK-COLOURED HONEY.

“On the 29th of July I took the first glass of honey from a hive, into which a swarm was put on the 17th of May. The comb is quite free from grubs and farina, but the honey is dark and thick, and bad in flavour—like brown sugar, in fact. Can you give me any probable reason for its being so?—A. Z., *Warwickshire*.”

[We know of no flowers that produce honey so bad as that you mention; but most probably the darkness of it is the effect of honey-dews, which bees collect from the leaves of trees. That saccharine substance not only gives honey a bad flavour, but sometimes makes it as black as ink; and thus renders it, though stored in new combs, only fit to feed bees with in the time of need.—J. WIGHTON.]

CUTTING DOWN PELARGONIUMS.—EDGING FOR PINCUSHION BEDS.

“On looking at my bedding-out Geraniums, with the intention of cutting them down, I found many preparing for so good a second blow, that I thought it a pity to do so (*Flying Dutchman, Lucy, Cuyt, Marginata, &c.*). Please to tell me whether I shall be able to have both cuttings from these and original plants, or either, in good order for flowering in beds next year, if I spare them till late in the season? Both books and gardeners seem so much to take it for granted that they are to be cut down now, that I fear losing them by sparing them.

“In your late number it was said, ‘Pincushion beds’ might be edged with bricks. I do not understand how these could preserve the circular form in round beds three feet in diameter. Are they placed on end or side? I have myself somewhat such beds with wire basket-work edging round my Standard Roses and flowers within, but these do not keep up the mould well at the edges, so I should be glad to make some more on your plan if fully understood.—JANE.”

[Yours are not “bedding Geraniums,” but greenhouse Pelargoniums. They will give you a second, and perhaps a third bloom, and make good plants next year if you do not cut them down till October; but you will have a great bother to root cuttings of them so late. Many gardeners are daft about cutting down Pelargoniums at a given period; we cut them as they “come from work,” from the end of April to the end of October, beginning with *Alba multiflora*, and ending with *Priory Queen* and *Alma*. One half of the books on gardening ought to have been burned at the peace illuminations.

You jump at conclusions, like nine-tenths of the wisest people. You never read, as you say, in our pages, that *pincushion beds* were edged with bricks: read the article again. Wire edgings, or cast-iron grating-like edgings, will not do for such beds at all. Can you inform us what is the real use of a wire edging to a flower-bed except to keep the

rabbits from it? A man with one arm and a wooden leg may edge four or five dozen of Pincushion-beds in one day if the burnt refuse from a brick-kiln is brought to him to the spot.]

NEW BOOKS.

MANUAL OF DOMESTIC ECONOMY.*—This is a very useful, cheap book, containing much practical, good information relative to every department of house-keeping and family management. The following will serve as a specimen:—

“DOMESTIC EXPENDITURE.—The necessity of keeping a correct account of income and expenditure cannot be too strongly stated. The great advantage of such an account in house-keeping arises from the check that it gives to unnecessary expenditure in little matters; for it is, in general, the numerous small sums, and not the few large ones, which take by far the most considerable share of a person's income. The great items are easily remembered and carefully considered; but the smaller ones, from their insignificance, are often overlooked. There can seldom be either comfort, economy, or good management, in a household where accurate accounts are not kept. Too much money is spent on certain things, leaving others which are, perhaps, even more necessary, unpurchased; or, it may be, the latter have to be obtained on credit, which is still worse, and this not intentionally, but merely from the want of accounts, and consequent ignorance of the manner in which money has been expended.

“It is impossible to form estimates for domestic expenditure which would be applicable to the various districts of this country. The following balance-sheets are, however, given as the actual weekly expenditure of two different families, and as some guide to the inexperienced.

“In laying the first before the public, Mr. Mechi says—‘As we are talking of balance-sheets, permit me to lay before you the labourer's balance-sheet. As there are many in our towns and cities with tolerably good wages, who don't know how to live, it may be useful:’—

A Labourer's weekly expenditure—the family consisting of man, wife, and three children; and his total expenditure for the year, as compared with his receipts.

Weekly Expenditure.

	s.	d.		s.	d.
9 4-lb. loaves, at 5d...	3	9	Boots for the man,		
1½ lb. of fat pork, at 6d.	0	9	woman, and family	0	9
1 lb. of cheese	0	7	Clothing for ditto	1	4
½ lb. of butter	0	6	Pins, needles, thread,		
2 ozs. of tea	0	6	&c.	0	1
1 lb. of brown sugar..	0	4	Conduements (doctor's		
½ lb. of soap	0	3	fee, &c.)	0	4
½ lb. of candles	0	2½	Medical attendance, by		
Coals and firing	0	8	5s. annual club	0	1
				10	1½

	£	s.	d.		£	s.	d.
52 weeks at 10s. 1¼d.	26	7	7	48 weeks' labour, at			
Rent	3	10	0	8s.	19	4	0
				4 weeks' harvest, at			
				21s. 6d.	4	6	0
				Extra wages by			
				hoeing, dibbling,			
				&c.	1	0	0
				Wife's gleanings,			
				weeding, &c. ..	2	10	0
				4 bushels of wheat			
				in the garden, at			
				5s.	1	0	0
					29	0	0
				Deficiency	0	17	7
	£29	17	7		£29	17	7

* *A Manual of Domestic Economy: with Hints on Domestic Medicine and Surgery.* By W. B. Tegetmeier. London: Groombridge and Sons.

“From the preceding statement, which I believe to be strictly accurate, it is quite clear that unless the wife earns more than the sum above stated, they cannot pay their way.”—*Mr. Mechi's Second Paper.*

Weekly wages and expenditure of a family, consisting of a man and his wife, a girl, three boys, all under fourteen, and a servant; none of the children capable of doing any household work.

£	s.	d.		s.	d.
Weekly wages	3	8	1		
			Income-tax ..	4	0
			Rent of house	7	0
			Taxes, poor's	13	8½
			rate, & water		
			rates	2	4½
			Meat and bacon	6	6
			Coffee, 8d., cocoa, 3d.	0	11
			Eggs	0	6
			Tea, 3s. 9d. per lb.	1	0
			Sugar, 4½d.	0	9
			Vegetables	0	7
			Butter, 11d. and 8d.		
			per lb.	1	3
			Milk, 3½d., cheese, 6d.	2	3
			Treacle for pudding,		
			&c.	0	3
			Rice, sago, and farina	0	3
			Coal and wood	1	9
			Soap, 5d.	0	7½
			Candles	0	1½
			Gas, 4s. 6d. per 1000 ft.	0	7½
			Fruit, dried	0	5
			Beer	1	0
			Bread, 5s., Flour, 1s.	6	0
			Clothes and shoes	10	6
			Schooling	6	0
			Omnibus hire	1	0
			Chapel rent	1	0
			Books, paper, &c.	1	0
			Doctor and medicine	1	6
			Servant	2	4
			Charities	0	9
			Insurance, house	0	4
			Ditto, life	2	8
			Sundries	2	6
				£3	8 1

APHORISMS ON DRAWING.*—There is a great deal of good sense in this little volume, and we can best enable our readers to judge whether we are not correct in our opinion by giving an extract. The work is composed of Aphorisms and comments like the following:—

“Form your own style upon Nature.

“Learn the principles of art of whom you may best, and follow good advice as to your work; but educate your taste, train your eye, and form your hand on Nature. It is the only perfect master. For even the best of teachers cannot be followed implicitly, since they show, side by side with flashes of genius, proofs of oversight, or of inferiority in some things. Raphael, for instance, ought never to have attempted landscape in any way; his back-grounds often kill his perfect figures. Thus, on the cartoon of the miraculous draught of fishes, not only is the perspective of the water incorrect, (judging, at least, from the copies I have seen,) but both OUR SAVIOUR and St. Peter are put together in a boat too small to carry one man in safety, much less two. In the celebrated fresco of the Lord's Supper, by Leonardo da Vinci, the table, as it is drawn, cannot possibly stand, for the trusses on which it rests have only one side. OUR SAVIOUR's head, also, is drawn in the centre of a square window, the opening of which takes from the effect of the light and shade on that Divine head. The whole picture would have been better if the table had been laid in the length, and not in the breadth, of the room. In like manner, that great master, Salvator Rosa, often painted trees and rocks of his own, with a masterly touch, it is true, but still not always after the model of Nature.

* *Aphorisms on Drawing.* By the Rev. S. C. Malan, M.A. London: Longman and Co.

“So true it is that *style* in drawing proceeds from the mind of the artist more than from practice, that a want of uniformity in it is both apparent and unpleasant to the eye. Thus, we find that pictures in which the trees are done by one artist, and the figures or the cattle by another, in general do not answer. They are wanting in uniformity, because they are not wholly done by the same mind. And since one man does not know what, or how, another man feels; and since the minds of no two men are entirely alike, it follows that the figures or the cattle in such pictures, do not, in fact, belong to the rest. This defect will not strike everybody; because few persons, comparatively, are good judges of drawing. But the defect exists, nevertheless.”

PROLIFIC HIVE OF BEES.

I do not know whether the following account of the very great, and, as far as my experience extends, unusual prolificacy of a swarm of this season possesses any interest; if so, it is much at the service of THE COTTAGE GARDENER:—

On June the 3rd I hived a very strong swarm into a broad, shallow, flat-topped straw hive, with a four-inch aperture in the top. (The swarm was so large, that the old lady who had the management of the hive from which it issued insisted that it was a double swarm, or a first and second swarm coming away together.) The hive was placed on a stand in the open air, with a due south aspect, and protected by a zinc shade, made on the plan recommended by Mr. Taylor in his “Bee-Keeper's Manual.” After living the swarm, there was, if I remember rightly, a long continuance of fine weather, and the fields around abounded with Clover and Buttercups, furnishing both honey and bee-bread. In about eighteen or twenty days after being hived the bees showed symptoms of crowding; the mat covering the aperture was removed, and an adapting board and glass super placed on the hive. Not having a piece of guide-comb placed in the glass, the bees worked from the old comb upwards, not taking possession for a couple of days, and up to the present time (August 18th), the glass is only half-filled with comb.

On the 1st and 2nd of July a swarm issued from the hive, and, taking me rather by surprise, I was obliged to place it in one of the common sort of hives. After hiving it there was a continuance, for a few days, of dull weather, and that the swarm might not lose time in wax-making, I supplied it freely with barley sugar, made, as directed in my last communication on this subject, with vinegar. This was greedily devoured, and the progress of the hive was very satisfactory; the weight increased rapidly.

On the 17th of August this hive was accidentally thrown over. On going to it, I found it lying top downwards, filled with comb and bees. I instantly lifted it up, and turned it over on the floor-board; a few of the bees were unavoidably crushed between the bottom of the hive and the board, although, with the exception of a very few, they clustered inside around the combs. On being replaced, a large number of the bees issued out, clustering around the entrance, and honey ran forth from beneath the hive. Fortunately, the day being wet, no robber bees were attracted, not even from the adjacent hives. The operation of replacing the upset hive, which was very heavy and awkward to lift, I performed without any bee dress or other protection either to hands or face, and succeeded without receiving a sting. I believe, with *quietness* and *fearlessness*, all needful operations may be performed without risk of stinging.

Nevertheless, through my own folly, I got stung on the face, in consequence of dipping my finger in some of the honey running from the hive and tasting it, when several bees immediately settled on my lips, and I was stung in three places; the result being, when I awoke the following morning, that my head resembled, in size and symmetry, a very large plum pudding boiled in a cloth, one eye being nearly closed, and considerable swelling extending down the neck.

This accident to the first swarm and to myself has, however, carried me forward in point of time, and to refer back to the start in Taylor's hive. This, after swarming, rapidly increased again in numbers, and stored some honey in the glass super. On the morning of the 23rd of July, on

going out into the garden, I saw a swarm had just issued from it, and was in the air. It settled on a tree, and, without any difficulty, I hived it into the straw cover used for protecting the super, intending to return the swarm to the hive from whence it issued in the evening. I therefore placed it near the parent hive, and in about two hours' time, looking at it, was surprised to find the bees had left it, and had returned to the parent hive, around the mouth of which they were clustering, and the glass super was again filled with bees. Feeling interested, I took a low stool, and sat down opposite the entrance of the parent hive, watching attentively the proceedings, and amusing myself with capturing the drones as they appeared. In a few minutes the queen bee (I presume the one that accompanied the swarm) came out on the alighting board, when I immediately seized her majesty between my finger and thumb, and conveyed her in-doors, where she terminated her existence, and added a specimen to my collection. On the loss of the queen the bees immediately returned into the hive.

Five days after, viz., on the 28th, during my absence from home for some days, a swarm again issued from the hive, which was again placed in the straw cover. On this occasion they remained there, and, on looking at it three days since, I perceive they have partially filled it with comb; but feeling convinced that it would be far too weak to stand the winter, it will shortly be added to another hive.

Thus, from one swarm of this season, June 3rd, I have had three swarms. One is now, provided they recover the accident, a strong, heavy, and well-filled hive. The second was returned, and the third has succeeded, for the present, at least, in establishing itself; whilst in the original there is still some honey in the comb in the super.

I have found that an entrance four inches in breadth, and three-eighths in depth, cut in the floor-board, is very superior to cutting away the straw of the hive, and when not required of the full width is readily closed by blocks of wood. I do not think the bees in the overturned hive could have removed their dead companions had the entrance been of the ordinary kind.

Should this gossip be at all interesting, I may, at some future time, forward the results of some experiments and observations on my Bees, although I hope I shall not have to record that they are purchased at such a price as I am now paying.—W. B. TEGETMEIER.

TO CORRESPONDENTS.

BULBS (Faverdale).—We know of no recent work devoted to the general culture of bulbs. There are directions for cultivating Hyacinths and Tulips in "Maddock's Florists' Directory," but it is rather antiquated and benighted in its details. There are sufficient directions for growing them successfully in *THE COTTAGE GARDENERS' DICTIONARY*.

HAIR-FALLING (J. C.).—Dissolve as much salt as you can in brandy, and rub the solution daily down at the roots of the hair.

LAMB'S TONGUE.—R. H. informs us that this is a popular name for "the common Rib-Grass, *Plantago media*," the proper English name, however, is Hoary Plantain. Upon turning to Gerard's "Herbal," we find that he applies the name of "Lamb's Tongue" to the larger, or broad-leaved Plantain, *Plantago major*; and in Bauhin's "Historia Plantarum," we find that such name is as old as the time of Theophrastus, for he calls it *Arnoglosson*, which is literally the Greek for Lamb's Tongue.

BEE TRAP (Clericus).—We are not aware that this very simple contrivance has been made for sale. The late Mr. Payne gave us the description published by us in "Bee-Keeping for the Many." If you find the inventor's name in "The Clergy List," and write to him, he would give you every information.

CUTTINGS (A Subscriber).—You may safely put your rooted cuttings in the box as you propose.

NIGHT-BLOOMING STOCK (J. G., Paris).—You may obtain it from any of the principal nurserymen near London.

BACK NUMBERS (Idem).—You can have any and all the back numbers now. We have had them reprinted.

MANGLES' VARIEGATED GERANIUM (J. H.).—The green and white sports are quite common in this Geranium.

CELERY INSECT-EATEN (G. H.).—The destruction is caused by the grub of the Celery Fly (*Tephritis onoporditis*). We know of no remedy, for the fly deposits its eggs on the young plants, and the grubs come forth in succession from July to November. The parent fly may be seen usually upon Laurels from May to the end of July. See a drawing in our first volume, page 72.

NAMES OF PLANTS (South Bank).—Common Borage has come up in your kitchen-garden—the proper place for it. (*Subscriber*).—We cannot name *Verbenus* from dry specimens. (*W. Blase*).—1. *Lysimachia vulgaris*. 2. *Lyccesteria formosa*. 3. *Lycopodium clavatum*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

BRIDLINGTON. August 27th. *Sec.*, Mr. T. Cape, Bridlington.
DORCHESTER. Sept. 17th and 18th. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close Sept. 1st.
ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. *Secs.*, G. E. Attwood, and W. A. Warwick.
GLOUCESTERSHIRE. Nov. 26th and 27th. *Sec.*, E. Trinder, Esq., Cirencester. Entries close Nov. 1st.
LEOMINSTER. Thursday, October 16.
NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. *Sec.*, Richard Hawksley, jun. Entries close November 19th.
NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. *Sec.*, John Spencer, Nottingham.
SOWERBY BRIDGE. Sept. 5th. *Sec.*, F. Dyson, Esq., Sowerby Bridge. Entries close August 29th.

N.B.—Secretaries will oblige us by sending early copies of their lists.

POULTRY EXHIBITION AT TOTTINGTON, LANCASHIRE.

THIS proved a very spirited little affair, for although only 118 pens competed for the Society's premiums, the quality of the poultry, as a whole, was very superior, and the arrangements such as reflect the highest credit on the managing committee. The fowls were ranged in a double tier, and, from being in the open air, no advantage of position was secured for any individual pen above its adversaries throughout the Exhibition. The Show took place on the very snitabla grounds of Mrs. Knowles, affording somewhat extensive views, whilst the weather, though somewhat threatening of tempest, eventually proved without any rain whatever, and occasional gleams of sunshine caused the fowls to be seen to great advantage. The attendance was very good, and the visitors all seemed well satisfied.

The *Dorking* chickens were the first entry upon the catalogue, and were, as a whole, very good, but bore unmistakable testimony of the really unfavourable weather that marked the early spring of this present year. In many pens were to be seen chickens of three different and widely diverse ages, evidently grouped together to make up the necessary complement for exhibition. We do not, by any means, urge this as a complaint, but simply to show the great paucity of very early chickens this year; indeed, in many instances, perhaps only a single bird or two were eventually secured out of very promising hatches, that at the onset numbered thirteen or fourteen. So difficult a season for young live stock to maintain their health we do not remember, and the consequence was, frost-bitten toes were generally prevalent among most of the few early-hatched birds exhibited. Both in these and also *Spanish* many of the younger chickens were birds of very great promise indeed. The second prize *Cochin* chickens were black ones, and as good as any we remember to have seen, but the arrangement permitted all colours to compete on terms of perfect equality; and grave doubts are always entertained that a cockerel without any stain whatever may, when adult, show coloured feathers; in the black ones, indeed, the defect is almost proverbial. The *Game* chickens were very superior, but the old birds of this variety were in the worst condition possible for exhibition from their moulting. The *Hamburgh* chicken class was worthy of Lancashire, being excellent, but most of the pens were very injudiciously selected, one imperfect fowl proving condemnatory of others of especial good quality, and this arose, in not a few cases, where the fault might very easily have been avoided. Much amusement to visitors was created in this class, from the fact of Pen 84 being empty after the fowls were adjudicated, and permission was very anxiously sought to allow a party resident in the immediate neighbourhood to exhibit a cat and four kittens therein. This strange request was complied with, and certainly very few pens proved so truly matched. The old cat and her four youngsters were incomparable as "tabbies;" not a single white hair stood amiss throughout the whole, and the incongruity of such an unprecedented addition to a *Poultry Show* was the fitting subject for not a small amount of wit and repartee. This group certainly caused great attraction, for none ever bespoke the tender solicitude that had been previously bestowed upon them better than they did, and the pen was

constantly besieged all day by persons desirous to have a peep at fowls that could cause so much curiosity and laughter; whilst poor Grimalkin sat most demurely, looking as though hardly able to find reasons for her compulsory public incarceration. The *Geese* were worthy of our highest commendation; the first prize pen of Toulouse was an excellent exhibition pen, as were also the *Empdens*, that succumbed to them by taking the second premium. Among the *Ducks* were some very first-class Aylesburys, and a few isolated specimens of superior *Rouens*. An unusually good pen of *Friszled Fowls* was shown as Extra Stock.

As the fowls were only exhibited a single day, and in the open air, there is not any doubt but that all would return as perfectly healthy and well as when received. And it gives us pleasure to record the fact, that each succeeding year this meeting has greatly increased in general popularity.

The premiums were awarded as follows, by Mr. Edward Hewitt, of Eden Cottage, Spark Brook, near Birmingham:—

DORKINGS.—COCKEREL AND TWO PULLETS.—First, Mr. John Robinson, Vale House, Garstang. (Grey.) Commended.—Mr. John Parsons, Slate Lane, Audenshaw, near Manchester. Miss Jane Grimshawe, Swinshawe, near Rawtenstall. (A good class.)

COCK AND TWO HENS, OF ANY AGE.—First, Mr. Michael Potter, Prestwich, near Manchester.

SINGLE COCK, OF ANY AGE.—Prize withheld.

SPANISH.—COCKEREL AND TWO PULLETS.—First, Mr. Joseph Tate, Preston. Second, Mr. Edward Roberts, Golden Lion, Oldham Road, Manchester. (The class very superior.)

COCK AND TWO HENS, OF ANY AGE.—First, Mr. J. H. Moul, Belmont, near Bolton.

BEST SINGLE COCK, OF ANY AGE.—First, Mr. Edmund Turner, Stoneclough, near Manchester.

COCHIN-CHINA.—COCKEREL AND TWO PULLETS.—First, Mr. John Robinson, Vale House, Garstang. (Buff.) Second, Mr. William Wanklyn, jun., Greenbank, Bury. (Black.) Highly Commended.—Mr. Thomas Stretch, Marsh Lane, Bootle, near Liverpool. (Buff.) Mr. James Walker, 34, Moorgate, Bury. Commended.—Mr. Thomas Stretch, Marsh Lane, Bootle, near Liverpool. (Buff.)

COCK AND TWO HENS, OF ANY AGE.—First, Mr. Thomas Stretch, Marsh Lane, Bootle, near Liverpool. (Buff.) Commended.—Mr. William Wanklyn, jun., Bury.

BEST SINGLE COCK, OF ANY AGE.—First, Mr. Michael Potter, Prestwich, near Manchester.

GAME.—COCKEREL AND TWO PULLETS.—First, Mr. C. R. Titterton, Birmingham. (Black-breasted Reds.) Second, Mr. William Lomax, Stoneclough, near Manchester. (Black Reds.) Highly Commended.—Mr. Ferdinand Kay, Unsworth, near Bury.

COCK AND TWO HENS, OF ANY AGE.—First, Mr. George F. Ashton, Limefield House, near Bury.

BEST SINGLE COCK, OF ANY AGE.—First, Mr. William Lomax, Stoneclough, near Manchester. (Black Red.)

HAMBURGS.—COCKEREL AND TWO PULLETS.—First, Mr. John Sudell, Church Street, Padham. (Silver-pencilled.) Second, Mr. William Lomax, Stoneclough, near Manchester. (Golden-pencilled.) Highly Commended.—Mr. John Parsons, Audenshaw, near Manchester. Commended.—Mr. Samuel Fletcher, Unsworth, near Bury. (A capital class.)

COCK AND TWO HENS, OF ANY AGE.—First, Mr. James Heywood, Bow Lee, Middleton.

BEST SINGLE COCK, OF ANY AGE.—First, Mr. William Lomax, Stoneclough, near Manchester. (Golden-pencilled.)

POLANDS.—Cockerel and two Pullets, or Cock and two Hens.—Second, Mr. William Lomax, Stoneclough, near Manchester. (Golden-spangled.) (First prize withheld.)

BANTAMS.—Cockerel and two Pullets, or Cock and two Hens.—First, Mr. William Wanklyn, jun., Bury. Second, Mr. David Potter, Pendlebury, near Manchester.

DUCKS (Aylesbury, or any White variety).—Drake and two Ducks.—First, Mr. John Greenwood, Pendleton, near Manchester. (Aylesbury.) Second, Mr. John Robinson, Vale House, Garstang. (Aylesbury.) Highly Commended.—Miss Jane Grimshawe, Swinshawe, near Rawtenstall. (White Deoy.)

DUCKS (Rouen, or any Dark variety).—Drake and two Ducks.—First, Mr. George F. Ashton, Limefield House, near Bury. (Rouen.) Second, Mr. Richard Ainsworth, Nelson Inn, Bury. (Rouen.) Highly Commended.—Mr. Richard Gorton, Tottington. (Rouen.) Commended.—Mr. R. Edward Ashton, The Oaklands, near Bury. (Rouen.)

GEES.—Gander and two Geese.—First, Mr. William Kershaw, Peel Street, Heywood. (Toulouse.) Second, Mr. William Kershaw, Peel Street, Heywood. (White.)

TURKEYS.—Cock and two Hens.—First, Mr. William Kershaw, Peel Street, Heywood. Second, Mrs. Margaret Westbrook, Agecroft Bridge.

COPAIBA A CURE FOR ROUP.

As it may interest some of your readers, I beg to enclose particulars of a cure effected in a very severe case of roup.

The bird is a very fine Black-breasted Dorking cock, and seemed to have been suffering for some days, as when he came into my hands the disease had arrived at the purulent stage, and for the first three days I gave him jalap and calomel, but in too small quantities, and he became so ill that I hardly expected him to live through the night. However, I discovered my error. I gave him a powder of twenty grains of jalap, and two grains of calomel. He was a little better next day, but lost his strength rapidly. I had been giving him Cayenne capsules in butter night and morning, and feeding him (forcibly) with barleymeal mixed with chopped lettuce, and dredged with black pepper. He at last became so weak that he could hardly stand. At the end of a week I determined to try copiba, and had made up at the druggist's pills of ten drops of the essential oil, and gave one to him morning and evening. The second day he was better. I have persevered with the pills, and constant washing the nose and eyes with vinegar and water, and he is now out of all danger, feeds himself, and crows. The discharge still continues, but every day lessens. He has been ill four weeks, and for three he has had the copiba pills. He will, I think be quite well in ten days, and he is becoming heavier every day. I repeated the purgative dose of twenty grains of jalap and two grains of calomel about a week after I began the copiba.

I found the pills equally efficacious in a slighter case. There is one point that cannot be too strongly insisted on in such cases—*trust no one*, but see the medicine and food given. With the best intentions, the "I thought" of an uneducated person will do irreparable mischief.—A CONSTANT READER, Dublin.

PREVENTION OF PIGEONS FLYING AWAY.

ON receiving any new additions to the stock of Pigeons, there is always some risk of their flying away before they have become accustomed to the place. I am not now speaking of Antwerps, Dragons, and other *homeing* birds, but of the ordinary Toys that are not used for flying distances. This risk may be entirely prevented by a very simple plan, that I have followed for a long time, but which I find is not known to all amateurs; and I therefore think it worth description. On receiving a new Pigeon, I take hold of one wing, and open it to its full extent, placing it flat on a table; then, taking a piece of common soap in the other hand, I dip it into water, and thoroughly soap the quill feathers, rubbing them in the direction of their length, from quill to point: this so clogs the wing, that the bird is unable to fly more than a few yards. By exposure to the weather, however, and by the bird washing itself, the soap is gradually removed, and the power of flight as gradually recovered, during which time the pigeon has become accustomed to its new residence, and seeks no further change. I can answer for the complete success of the plan, as I fly all my birds, and have never lost one whose wings I soaped.—W. B. TEGETMEIER.

CAUSES OF THE DIVERSITY OF OPINION REGARDING THE LAYING OF DIFFERENT VARIETIES.

IN the columns of THE COTTAGE GARDENER there have recently appeared several letters advocating the claims of different varieties to be considered as the best egg producers. One correspondent states that Hamburgs are the most prolific. Another has tried them, and finds them less valuable than Cochins. Number three recommends Spanish. Number four denounces them; and so on, the changes are rung through all the varieties. Now, I believe that each correspondent writes in good faith, and states truly the results of his observations. How, then, is the discrepancy to be accounted for? Very easily, as it simply depends on the fact, that in different strains of the same variety there are as great differences in prolificacy as in the distinct varieties themselves; but as an example is more to the point than any number of unsupported statements, let me instance crested fowls that I have of late years been paying some attention to.

Generally speaking, there are no better summer layers than these birds. From February, if mild, or March, until moulting time, they yield a weekly supply of four, or even

five eggs each. But there are certain strains of Polands that are not remarkable as layers, and I have now, in adjoining runs, two sets of these birds. One set average four eggs per week, the other scarcely one egg per week from each hen; nevertheless, the worse layers have greatly the advantage as to size of run, &c. All are last year's birds, and as nearly as possible of an age. Both sets are liberally fed with corn and soft food.

It is evident that if these two sets were in the possession of different persons very different opinions might be held by them regarding the value of Polands as layers, and although very opposite and apparently contradictory, both truthful, and founded on observation.

I believe that the tendency to lay well or ill is, in great part, hereditary; and where eggs solely are required, without any regard to appearances, I would say, Breed from the hens which lay the best.

I know a gentleman who keeps Cochins as winter layers, and who likes large eggs. He has, therefore, for some years, selected hens as breeders whose eggs were of a size superior to the usual average, and by following the only plan likely to be attended with success in improving any variety, has succeeded in obtaining a breed of birds laying very large eggs; but as this has been the only point at which he aimed in his selection, every other characteristic has suffered depreciation.

The large size of the egg of the French Crève-cœur, which is, undoubtedly, like our coloured Dorking, a composite fowl, has evidently been gained in the same manner. —W. B. TEGETMEIER, *Tottenham*.

THE HOUSEHOLD.

TRIFLE.—To begin with the syllabub, which is to be made over-night, of a pint of cream, the juice of two lemons, and a gill of white wine, and lump sugar powdered, sufficient to make it rather sweet, then have ready a large sieve, and lay over it, *bottom upwards*, a piece of muslin, then whip your cream *full half-an-hour* with a whisk; lay, after this, your cream *thinly* upon the sieve (to make the most of it) with a milk-skimmer, keep whisking on till you have laid all the cream upon the sieve, laying the latter part upon the *middle* of it. The sieve should be raised over a dish with two sticks. *The next morning*, the day on which you eat your Trifle, take a quarter-of-a-pound of Macaroons, seven ounces of Batafees, six sponge biscuits cut in halves; lay the sponge biscuits rather in the middle of the dish, then *intermix* the rest flat in your dish, and when covered *once*, pour over them gently, in a teapot, three wine-glasses of white wine, and mix one of brandy, keeping back some of it to pour over the *remaining* biscuits, which must be laid flat more in the *middle* of the trifle-dish, so as to raise it a little; then, as before said, pour over the remaining wine. If this is done *over-night* the cakes dissolve and spoil the Trifle. Over these cakes pour a pint of *rather thick* cold custard, and then lay *five little* lumps of raspberry jam, at distances, upon the cake. About half-an-hour before your dinner is ready, take your whip off the sieve gently with the skimmer, and lay it on the cakes, covering them *all*, and then laying the remainder on the *middle*. A few harlequin seeds thrown on the top of the Trifle *just before it comes on the table* add to the beauty of it; if you let these lay *any time* upon it they all dissolve.

GINGERBREAD.—One pound of flour dried, a quarter-of-a-pound of butter, six ounces of sugar, the peel of two lemons cut in very small pieces, one ounce of ginger, and treacle sufficient to make it into a paste. Bake it one-quarter-of-an-hour in not too hot an oven.

LEMON PUDDING.—Take 3 lemons, and grate the rinds off; beat up 12 yolks and 6 whites of eggs; put in $\frac{1}{2}$ pint of cream, a $\frac{1}{4}$ lb. of butter, melted; mix all well together; squeeze in the juice of 2 lemons, put it over the stove, and keep stirring it till it is thick; put a puff-paste round the rim of the dish; put in your pudding, with some candied sweetmeats, cut small, over it, and bake it three-quarters-of-an-hour.

CUSTARD PUDDING.—Take a pint of cream, out of which take two or three spoonsful, and mix with a spoonful of fine flour; set the rest to boil. When it is boiled take it off, and

stir in the cold cream and flour well. When it is cold beat up five yolks and two whites of eggs, a little salt, some nutmeg, and two or three spoonsful of sherry; sweeten to your palate, butter a bowl, and pour it in; boil it half-an-hour; when it is done enough pour melted-butter over it. It is better steamed.

OUR LETTER BOX.

GOLD-LACED BANTAMS (*Gallus*).—The best and largest breeder of Sebright Bantams is Sir Thomas Sebright. It is difficult to say who is the next, but we should think the Rev. G. F. Hodson, North Pethererton, near Bridgewater.

WHITE COMB IN SPANISH FOWLS (*Vultur*).—We have always found an ointment of turmeric and genuine Cocoa-nut oil, rubbed into the comb, and a Plummer's pill, given three or four times at intervals of two days, sufficient to cure this disease; but Mr. Baily recommends sulphur ointment, a dose of castor oil, and plenty of green food, especially Lettuces.

BARLEY AS FOOD (*An Amateur*).—It is unexceptionable for large chickens and adult fowls, if given early in the day, and soft food at other times. It is only condemned by us when given in excess to poultry penned up at a Poultry Show.

WHITE BANTAMS (*S. C.*).—Write to those who have recently taken prizes for them. We do not know the *Golden Kidney Potato*.

LONDON MARKETS.—AUGUST 25TH.

COVENT GARDEN.

The heavy rains during the week have much interfered with out-door operations round London, and we have sensibly felt the diminution of supplies in consequence of it. Foreign importations remain about the same. West Indian *Pines* not so plentiful, as two or three cargoes are kept at sea by the easterly winds.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.
" dessert	12s. ,, 20s.
Pears, per dozen	1s. ,, 3s.
Peaches, per doz.	6s. ,, 12s.
Nectarines, do.	4s. ,, 10s.
Pine-apples, per lb.	4s. ,, 6s.
Hothouse Grapes, per lb. 3s.	6s.
Strawberries, per lb. 0d.	0s.
Foreign Melons, each 1s.	3s.
English Melons.....	1s. ,, 4s.
Morello Cherries, per lb. 1s.	2s.
Cherries, per lb.	0d. ,, 0s.
Oranges, per 100	10s. ,, 20s.
Seville Oranges, do.	0s. ,, 0s.
Lemons 10s.	15s.
Almonds, per lb.	9d. ,, 1s.
Nuts, Filberts, per lb. 9d.	1s.
" Cobs, ditto ..	0s. ,, 0s.
Barcelona, per bushel.....	20s. ,, 22s.
Nuts, Brazil, ditto. 12s.	14s.
Walnuts, per 1000 ..	9s. ,, 12s.
Chestnuts, per bushel 0s.	0s.

VEGETABLES.

Cabbages, per doz. 1s. to 1s. 6d.	
" Red, per doz. 2s. to 4s.	
Cauliflowers, each....	2d. ,, 4d.
Broccoli, per bdl.	0d. ,, 0d.
Savoy.....	0s. ,, 0s.
Greens, per doz. bunch. 2s.	4s.
Spinach, per sieve ..	— ,, 4s.
French Peas, per bush. 0s.	0s.
French Beans, per hlf. sv. 1s. 6d.	
Carrots, per bunch ..	4d. to 6d.

Parsnips, per doz.	6d. to 9d.
Beet, per doz.	1s. to 1s. 6d.
Potatoes, per cwt.	3s. to 6s.
" Franc, per lb. 0d.	0d.
" New, per lb.	0d. ,, 0d.
Onions, Y'ng, per bunch. 4d.	6d.
" Old, per bushel 0s.	0s.
Turnips, per bunch.	9d. ,, 1s.
Leeks, per bunch	2d. ,, 3d.
Garlic, per lb.	6d. ,, 8d.
Horseradish, per bundle	1s. 6d. to 2s. 6d.
Shallots, per lb.	6d. to 1s.
Lettuce, Cos, per score 1s.	2s.
" Cabbage, per doz. 0d.	3d.
Endive, per score ..	0s. 0d. ,, 0s.
Celery, per bunch.	9d. to 1s. 6d.
Radishes, Turnip, per dozen bunches	— to 6d.
Water Cresses, ditto.	6d. ,, 9d.
Small Salad, per punnet.....	2d. ,, 3d.
Artichokes, per lb.	— ,, 2d.
Asparagus, per bdl.	0s. ,, 0s.
Sea-kale, per punnet.	— ,, —
Rhubarb, per bundle 3d.	6d.
Cucumbers, each.	4d. ,, 6d.
Mushrooms, per pot 1s. 6d.	2s.

HERBS.

Basil, per bunch	4d. to 6d.
Marjoram, per bunch 4d.	6d.
Fennel, per bunch ..	2d. ,, 3d.
Savory, per bunch ..	2d. ,, 3d.
Thyme, per bunch ..	2d. ,, 3d.
Parsley, per bunch ..	2d. ,, 3d.
Mint, per bunch	2d. ,, 4d.
Green Mint	6d. ,, 8d.

POULTRY.

We shall have little difference to note this week. There is still a moderate supply of Grouse from the English moors; but there are few or no young birds from Scotland.

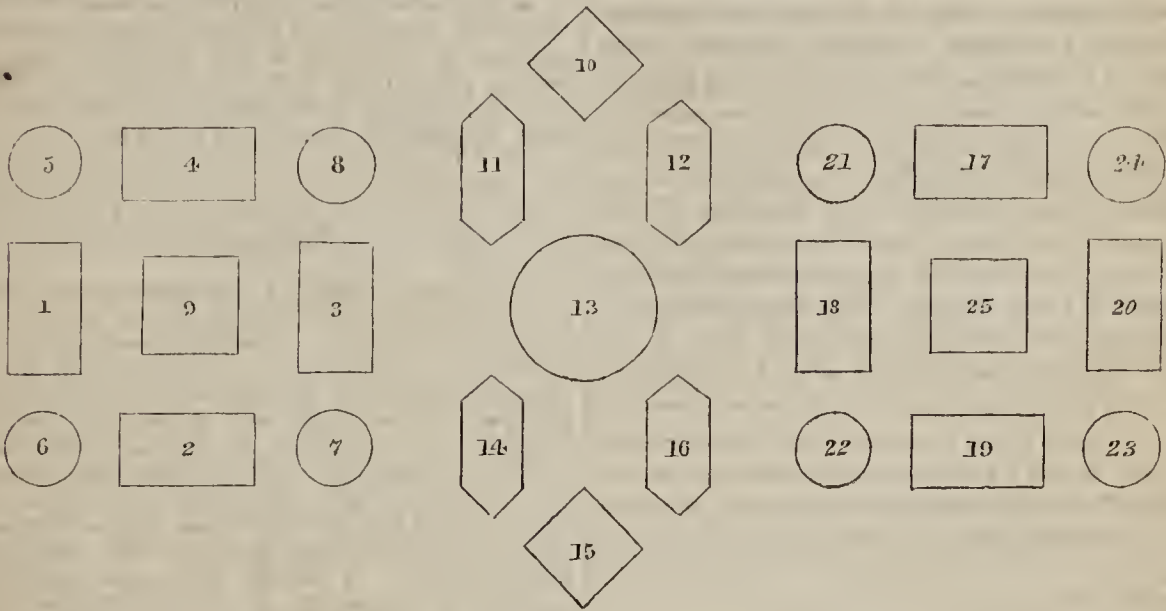
Large Fowls 5s. 0d. to 5s. 6d. each.	
Smaller do 4s. 0d. to 0s. 0d. ,,	
Chickens .. 2s. 3d. to 2s. 9d. ,,	
Geese..... 6s. 0d. to 7s. 0d. ,,	
Ducks 2s. 9d. to 3s. 3d. ,,	
Pigeons	9d. to 0d. each.
Quails	2s. 0d. to 0s. 0d. ,,
Grouse	3s. 6d. to 4s. 0d. ,,
Rabbits	1s. 4d. to 1s. 5d. ,,
Wild ditto	10d. to 1s. ,,

WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 2—8, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
2	Tu	The founced chestnut Moth.	30.315—30.146	67—45	N.	—	16 a 5	43 a 6	7 37	3	0 34	246
3	W	The lunar Underwing Moth.	30.131—30.038	71—50	N.E.	.02	18	41	7 47	4	0 53	247
4	Th	The bearded chestnut Moth.	29.997—29.962	68—44	N.W.	.01	19	38	8 0	5	1 13	248
5	F	The pale-bearded chestnut Moth.	30.018—29.987	64—42	N.E.	—	21	36	8 15	6	1 33	249
6	S		30.274—30.226	62—36	N.E.	—	23	34	8 38	7	1 53	250
7	SUN	16 SUNDAY AFTER TRINITY.	30.445—30.384	66—28	N.E.	—	24	32	9 10	8	2 13	251
8	M	The veinv chestnut Moth.	30.419—30.199	74—33	S.W.	—	26	29	9 56	9	2 33	252

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 69.8°, and 47.8°, respectively. The greatest heat, 83°, occurred on the 3rd, in 1835; and the lowest cold, 30°, on the 4th, in 1850. During the period 111 days were fine, and on 85 rain fell.

SIMPLE PLAN OF A FLOWER-GARDEN.



BELIEVING that some less fanciful garden-plan than most of those which have appeared in THE COTTAGE GARDENER would be acceptable to your readers, I have enclosed one of my own garden. It is simple enough; but I think no one will be disappointed in the effect it produces.

In making a garden-plan, I am afraid too much regard is generally had to the pattern, such as it appears in winter, or on paper, and that the effect of the colours is left very much to take care of itself.

Now, my idea is, that we ought to endeavour to provide that, while the pattern, as it will appear in the winter season, shall not be ugly, and while the general effect of the whole, when planted, shall be good from the usual point of view, there shall be, at the same time, two or more other points of view, which shall present a strikingly gorgeous assemblage of colours, each differing in general effect; or, in other words, that there shall be a predominating colour in each.

The plan I have enclosed is on a parallelogram of grass lying on the south side of my house, and is seen usually from an elevation of five feet. The dimensions are about 34 yards by 18 yards. The size of beds 1, 2, 3, 4, &c., is 9 feet 6 inches by 5 feet 6 inches. A 7 feet wide gravel-walk goes round the whole, with a mixed border outside that. No. 2 bed is 8 feet 9 inches,

and No. 1 bed is 7 feet 6 inches from the walk. Take the following for an arrangement of colours:—

- | | |
|---|---|
| 13. Flower of the Day, with edge of Lobelia ramosoides. | 10. La Gloire (new blue Verbena.) |
| 3. { Sultan Calceolaria, edge of Cerastium tomentosum. | 15. Verbena André. |
| 18. { | 12. Prince of Wales (best bedding scarlet Verbena). |
| 1. Calceolaria Kentish Hero, edge of do. | 14. Verbena St. Margaret. |
| 20. ——— Viscosissima, edge of do. | 11. ——— Parfum Made-line. |
| 4. Geranium Tom Thumb, do. do. | 16. ——— Mrs. Cayley. |
| 2. ——— Judy, do. do. | 5. } Diadematum Geranium. |
| 17. ——— Cerise Unique, do. do. | 24. } |
| 19. ——— Commander-in-Chief, do. | 6. } Shrubland Rose. |
| 9. } Smith's Superb. | 23. } |
| 25. } Purple Petunia. | 7. } Pale blue Lobelia. |
| | 22. } |
| | 21. White Ivy-leaf Geranium. |

Looking down, then, on the garden, and across it, from the usual point of view, a nice balance is observed between the chief predominating colour—the grass green, and the colours which are placed upon it. This I consider an absolutely essential, though too often a neglected point.

On descending to the garden level, and standing at one end, in order to view the plan lengthways, the colour is found to be broken into three sections, each of

which is distinct in its effect. The middle one, consisting of seven beds (among which 9, 13, 25, but especially 9 and 25, produce the effect peculiar to this section), is as gorgeous as it is possible to imagine—gold and purple, heightened by silvery-white predominating, while, in the remaining two sections of nine beds each, scarlet is conspicuous, sufficiently toned down by neighbouring colours—in one, by pink and white, in the other by blue and white. The first I consider scarcely susceptible of improvement; the two latter, however, would easily admit of it.

I cannot conclude without saying a word in favour of the free use of edgings. As for myself, I shall never, in future, plant *Calceolarias* or green-leaved *Geraniums* without an edging, either of the variegated *Alyssum*, or *Cerastium tomentosum*, a common rock-work plant. The latter I consider the most valuable edging plant we have; and any one may have tens of thousands of it to plant out in the spring, as it strikes readily, and stands the severest frosts without any protection at all. The usual error in planting is a deficiency of light colour, and if we remedy this by white beds, they become staring: the simplest way of putting light into the garden, if I may so speak, is by silvery edgings. I consider that the *Cerastium*, used pretty freely in this way, gives the finishing stroke to a good arrangement of the more glaring colours.—H. C. K., — *Rectory*.

P.S.—On some future occasion, if it is thought desirable by the Editor, I will show how, by an outlay of £11 to begin with, and at a cost of 5s. per annum, a garden of these dimensions can be certainly and easily filled every year.

[Pray do.—ED. C. G.]

On the 27th of August, Messrs. Farebrother and Co. sold, at Garroway's, the House and Gallery of the London Horticultural Society, being 21, Regent Street. It is held at a ground-rent of £150 a-year, upon lease from Government, of which lease sixty-two years are unexpired. It was knocked down for £4,900.

PROPAGATING GERANIUMS FROM LEAVES, FLOWER-STALKS, AND CUTTINGS.

THE very last exploit in the "Experimental Garden" goes to prove that every leaf, and stalk, and flower-stem on a *Geranium* or *Pelargonium* may be rooted with the greatest ease. Yes, every single leaf upon a *Tom Thumb* may be turned into a bedding-plant; but you must take the bud along with it, and preserve the blade of the leaf. Insert this as you would a cutting, round the sides of a cutting-pot; the base of the leaf will soon make roots; the bud starts into leaf in a short time, and appears at the side of the leaf-stalk like a young seedling. Nurse it as you would a seedling, and in process of time you have a bedding-plant as I said. Here, then, is an immense stop gained by those who raise a superior seedling, or who deal in multiplying plants from other people's seedlings. Instead of three, four, or five leaves to a little cutting, you may have as

many plants at once, which, although longer on the way, will tell abundantly in the course of one season's propagation. Again, when you pay 7s. 6d. or 10s. 6d., or three times the amount for a bedder or a *Pelargonium*, increase it by leaf and bud till you have a full stock; after that, go on in the old way.

Next to this in importance is the fact, accomplished in the "Experimental," that every part of the stem of a *Geranium* cutting will root just as soon and as easily as that part immediately under a joint. By this mode you may increase by the first numeral in the multiplication table—twice 2 are 4, and so on to 12; cut just above a joint, and the spared joint will make the next plant, instead of a bottom to the first one only. This is another stride when you are most anxious to increase a given sort to the utmost.

A *Geranium* leaf will root just as well without a bud at its base as with one; but from the middle of April to the end of August is not a sufficient time for the leaf to originate a bud, and it is now doubtful if such a leaf has the power to do that. Such leaves do not form a knob or callosity at the bottom, as some other leaves and most cuttings do, from which a new bud might be expected. The roots from these leaves come direct from the base or bottom of the leaf-stalk without a previous swelling of that part, so that nothing would be gained, save the curiosity of the thing, by rooting a leaf without a bud to it.

As a matter of detail, I may observe, that although you might take a leaf and bud from a standing shoot with no more "flesh" or substance than would be done in taking off a Rose bud to "work," you may gain time by taking as much of the substance of the shoot as you can spare, or can divide with it, providing always that the part of the substance is opposite to the bud and below it. When the "splice" is taken from above the bud, that upper part may damp or die back to the bud, and may kill the bud before it stops the decaying process. Still, this upper part above the bud need not necessarily die. A careful propagator would watch against that; but, as all are not so ready-eyed as a professed man, the safest way is to keep to the first part of the story.

There is now no room to doubt all this; there are fifty instances to assert the facts in the borders of the *sanctum* to the "Experimental Garden" at this moment; and if no more should be heard of this garden, this of itself is sufficient to pay for all the labour, and anxiety, and expense we have incurred, together with all the responsibility on account of the undertaking. It is true that no great pledges would be broken if the Experimental should break down, because no such pledges have been given concerning it; still, I feel a certain degree of public responsibility is attached to the undertaking, the greatest of which is this—from the very first set of experiments it has resulted that an unscrupulous manager, a man of sharp practice, might cheat the public to a most enormous extent, without running the smallest risk of ever being detected in any sort of fraudulent dealings; but now I am going to relate facts which will guard the public, and save the responsibility at the same time, and after that or this I shall feel no such thing as a responsibility to the outer world.

Be it known, therefore, to all whom it may concern, but to cross-breeders in particular, that in the Experimental Garden they can root the flower-stalks of *Geraniums* quite as easily as the shoots, or cuttings, or leaf-stalks; that if a cross-breeder shall send a truss of flowers to be seen and judged, the people of the "Experimental" are so clever, that they can not only root the stalk of the truss, but get the remaining portion of the flower-buds to open, use the pollen of such flowers on their own breeders, or extract the anthers, and make

use of so many new mothers, on which to dust the pollen of the Experimental stock; and if that is not an enormous temptation and a vast responsibility, just tell me what is the meaning of such terms. But having told you the whole truth, and nothing but the truth, as far as I know, and without being asked, I shall hold myself, in future, as perfectly free from all responsibility on this part of the subject; and now we shall, if you please, enter the lists on equal terms. I am a cross-breeder to the back of the back-bone, and you may, or may not, look very cross when you learn that it is my settled determination to east nine-tenths of the present stock of bedding Geraniums, of all sorts and kinds, into the River Thames above Kingston Bridge, and that it is my resolve to fill up half their places with other kinds half as good again, leaving it to more fortunate, or, it may be, less fortunate breeders to offer you kinds twice as good. Meantime, and for a very long time, indeed, others, without the bump of responsibility on their foreheads, have been sending my cast-off seedlings into the world without my name, on the easy weight of my authority or approbation; and like cast-off clothes, or shooting-boots, and old hats, they—the seedlings—did not fit or give satisfaction to all the world.

About eight or nine years back a young Belgian or German gardener, who was doing the Geraniums at the Pine-Apple Place Nursery, showed me how he did his cuttings of them—that was in the month of June; but I never saw or heard of such a curious way from that day to this. Mr. Appleby ought to have seen it, for he was among the Orchids at the time. The kinds were the most tender in the place; the cuttings were in the usual way, but were only let into a half-inch thick compost of sandy peat and loam, mostly sand, in six-inch wide flower-pot saucers, in a row all round; the cuttings leaning against the sides of the saucer, without any support from the compost; the saucers were placed on a shelf over the path, and only nine or ten inches from the glass roof; but, if I recollect, there was a slight canvass shade outside.

A few years previously, I knew a dealer, not far from that nursery, Syred by name, who grew abundantly for the streets and market, and once I called on him in August. I found 500 cutting-pots of Geraniums up against the glass, on shelves running along his house on purpose—48-sized pots, and ten or twelve cuttings in each pot. He, too, said that that was the best way; that he never shaded them, nor shut the doors or ventilators. I am satisfied I saw some of his cuttings touching the glass. Now, after the end of August, I propagate all my Geraniums on this very plan, but with different sized pots, from thumb-pots, and one cutting in them, to No. 32-pots, with ten strong cuttings, to remain in the same pot till late next March. For the first week I do not place the pots up so near the glass as they did; after that the leaves get firm. I give more moisture than is usual, and keep them up very near the glass, not more than six or seven inches from it, and there is a thorough draught day and night. Constant moisture; great, dry heat; and a full blaze of light, and being close to the glass, seem to be all the secret. But if I understood Mr. Syred, the plan is as old as the time of his grandfather.

D. BEATON.

[This is one of the most interesting and most useful announcements ever made to floriculturists; and the best Geranium of the season ought to be named *Donald Beaton*, as a mark of honour and gratitude.—ED. C. G.]

PLANTS THAT MAY BE IN BLOOM IN AUGUST.

THE greater part of those mentioned at page 327 will still be in bloom where there is room for them. A moderate-sized stove plant house will now be very gay with *Achimenes*, *Begonias*, *Gesneras*, *Passion Flowers*, and such fine-foliaged plants as *Maiden-Hair Ferns*, *Cissus discolor*, *Coleus Blumei*; and a few Orchids, as *Cattleya Loddigesii*; and a small greenhouse will be very gay with *Fuchsias*, *Balsams*, *Geraniums*, and *Begonias*, *Clerodendrons*, and tender annuals, such as *Thunbergia*, brought from the stove or forcing-house. The following bloom most generally in August:—

STOVE PLANTS.

Æchmea fulgens, *Ægiphila elata*, *diffusa*; *Æschynanthus Horsfieldii*, *maculata*, *radicans*; *Alpinia cardamomum*, *mutica*; *Anchieta pyrifolia*; *Anisochilus carnosus*; *Anisomeles Malabarica*, *ovata*; *Averrhoa bilimbi*; *Barleria lupulina*, *longiflora*, *purpurea*; *Basella rubra*; *Bilbergia cruenta*, *fasciata*; *Bromelia cruenta*, &c.; *Centroclinium reflexum*; *Centrostemma reflexum*, *alias* *Cyrtoceras reflexum*; *Colubrina Asiatica*; *Cryptophragmium venustum*; *Diastema ochroleuca*; *Dichorandra gracilis*, *picta*; *Eupatorium Berteroianum*, *chamædrifolium*; *Euphorbia Commelini*, *fulgens*, *heptagona*, *repanda*, *verticillata*; *Euryale ferox*; *Jacquemontia violacea*; *Jacquinia arborea*; *Lagerstromia Indica*, *elegans*; *Leianthus longifolius*; *Lisianthus Russellianus*, *latifolius*; *Malpighia aquifolium*; *Medinilla speciosa*, &c.; *Neptunia plena*; *Olea Roxburghii*; *Physianthus albicans*; *Rhytidophyllum auriculatum*; *Richardsonia scabra*; *Vismia Braziliensis*; *Xylophylla longifolia*, *latifolia*, &c.

GREENHOUSE PLANTS.

Adamia versicolor; *Adesmia viscosa*; *Aloe depressa*, *flavispina*, *nobilis*, &c.; *Aloysia citriodora*; *Ammobium elatum*, *plantaginum*; *Amphicoma arguta*; *Anacampseros arachnoides*, *polyphylla*, *varians*; *Andromeda speciosa*, &c.; *Anisomeles furcata*; *Astelma speciosissimum*; *Babiana villosa*, &c.; *Bæckia diosmæfolia*, *tenuifolia*; *Beatonia atrata*; *Billardiera mutabilis*, *scandens*; *Borbonia cordata*; *Bossia prostrata*; *Bouvardia versicolor*; *Browallia elata*, *demissa*, *speciosa*; *Burchardia umbellata*; *Chironia linoides*; *Clethra arborea*; *Dactylicapnos thalictifolia*; *Dianella ensifolia*, *revoluta*; *Deplopappus incanus*; *Erica formosa*, *gemmifera*, *Irbyana*, *Massoniæ*, *obliqua*, *suaveolens*, *verticillata*, *vestita rosea*, &c.; *Erythrina cristagalli*, *laurifolia*; *Helichrysum vestitum*, *affine*; *Hindsia longiflora*; *Leschenaultia arcuata*; *Lilium speciosum*; *Phanocoma prolifera*; *Polianthes gracilis*, *tuberosa*; *Roellia decurrens*, *spicata*; *Schotia speciosa*, *tamarindifolia*; *Struthiola tomentosa*; *Stylidium fasciculatum*; *Tecoma Capensis*; *Viminaria laterifolia*; *Virgilia sylvatica*; *Westringia triphylla*.

I shall now, according to custom, give a short outline of culture of some of those mentioned, confining my attention in this paper to stove plants, enumerated now and at page 327.

ÆCHMEA, *BILBERGIA*, and *BROMELIA* are propagated and cultivated much in the same way as the Pine-Apple. The old flowering stems are cut away when the suckers have got to a good size, as, before that, the old stems do more good in the way of nourishment than harm. The plants may then be divided, separated singly, or grown in a large pot in a mass. For effect, the latter mode is the best. A mass of from six to a dozen stems of the richly-coloured *Æchmeas* has a brilliant effect, and so has one stem in a little pot in a small house. They grow freely in peat and loam, and relish amazingly pieces of decaying, soft, rotten wood mixed with the com-

post. They will not find fault with a high temperature in summer, provided the atmosphere is moist, and a little shade given. About November they should be kept rather dry. In October they cannot have too much sun to perfect the flower-bud in the centre of the new sucker or plant. In winter the temperature should not be much under 55° , though I have had them frequently 10° lower when dry, without any injury. Plenty of moisture and the common treatment of the stove after spring generally bring flower-spikes in summer and autumn. As taking up little room, and dispensing with much care, these rough-looking plants are worthy of more general attention than is accorded to them.

ÆSCHYNANTHUS.—These grow freely in peat and loam, mixed with a little rotten wood, cow-dung dried, and charcoal. Their free flowering depends on full exposure to sun in the autumn months, and on being kept rather dry in winter when grown in pots and boxes. All the spreading kinds do nicely in baskets suspended from the roof of a plant-stove, and in such a position, above the eye of the observer, they are more attractive than when grown in any other way. The Crystal Palace has given a popularity to suspended baskets, which are very elegant in their proper place, and well arranged. In this, as well as other things, there are many people who seem capable of being influenced by one ruling idea at one time. I have had many a good hint from those not connected with the profession. A visitor lately had his bunpology so printed with basketry-suspended, that he found a suitable place for them everywhere—alike in the open space between pillars and beneath the dense branches of Elms. Out of doors, the hardiest *Æschynanthus* would scarcely be hardy enough; but in a plant-stove, or an intermediate-house, they would be perfectly at home, dangling their branches just pretty well as they liked. The plants may be in a pot, encased in the basket with moss, or they may be planted in the basket, with moss or sphagnum stuck firmly round the sides. The easiest mode of watering is to dip them, and allow all to be well saturated. Wood, willows, &c., anything will do for the basket; but the neatest and the most lasting for the amateur is galvanised wire. The baskets ought to be made before they are placed in the galvanising trough. If made merely with galvanised wire, every end of the wire will oxidize or rust, and spread itself alternately over the whole wire.

ASCLEPIAS CURASSAVICA.—This is one of the prettiest of the group, yielding a profusion of orange-scarlet flowers towards the points of its semi-herbaceous half-shrubby shoots, and, as the seed-vessel opens, disclosing a great quantity of pappus-like, silky, white down. I have kept the plant frequently at 45° in winter, but between that and 50° , and comparatively dry, would suit it better. It grows freely in loam, with a little peat and weak manure-waterings when it has fairly started. It should be re-potted as it begins to grow after the comparative repose of winter, and a week or two after the shoots have been pruned back, so as to permit of a sufficient number of young ones coming from the buds at their base. If the old shoots were well-ripened by exposure to sun and air the previous autumn, and comparatively dry and cool in winter, though not so much as to shrivel or injure the plant, each of these new shoots of the current spring and summer's growth will be fruitful in flowers. When done flowering, set the plants in a sunny spot in a cold pit, or such open space under glass, in September, and the first half of October, and diminish water, just giving enough to prevent flagging. The plants may stand rather thick with others of a similar nature in winter, the object being merely to preserve the stored-up capabilities of the plants, to be developed as the sun and heat of spring approach.

BARLERIA.—Neat little evergreen stove bushes, not very often met with, next-door neighbour to *Ruellia* and *Justicia*, and requiring much the same treatment, though not requiring quite so much pruning when done flowering.

BAUHINIA.—A genus of leguminous plants, with pretty Cæsalpine-like leaves, and requiring the common treatment of hardy stove plants, with the exception that they are very subject to red spider.

BEGONIA.—For a cool greenhouse, few things in July and August surpass the homely *Begonia Evansiana*, with its large panicles of pink flowers hanging over the large foliage, rough green outside, and light purple beneath. A large mass of it in a large pot looks best. When done flowering, and the stems decayed by exposure, the pot and roots are generally kept by me in any cool place that would suit *Dahlia* roots. In spring, when the shoots push, five strong ones are selected, with their cormy roots attached, for a large pot; four are placed round the outside and one in the middle, and if kept close and warm for a time to encourage growth, this old-fashioned plant will repay attention. In the stove at present, as well as in a moderate greenhouse, among the *Begonias* brought from the stove and forcing-house, one of the most showy will be the orange *Prestoniensis*, which will require to be pruned in in autumn, or, if grown on, will bloom all winter in the stove. Young plants of the latter should be frequently raised from cuttings, as it grows very fast, and large plants require much space in winter.

CALADIUM.—Grown chiefly for the beautiful foliage, requiring abundance of heat and moisture in summer, less moisture, but not dryness in winter, and a temperature seldom below 55° .

CEROPEGIA.—More curious than really beautiful, producing its singular flowers on the shoots of the current year, and therefore should be well exposed to sun in autumn, under a diminished supply of water; should be dry rather than wet in winter, seldom under 50° , be pruned pretty freely in spring, and shortly afterwards be encouraged to grow freely by heat and moisture. If more shoots start than there is room for, thin them before they are of much size. Loam and peat will suit it, well drained.

CLERODENDRONS.—I have found these are apt to die if kept long below 45° , unless the place is very dry. From 45° to 50° would be better, and the soil about the roots moistish, not wet. In spring, when there is an advantage of a high temperature—if bottom-heat all the better—prune the shoots back, so as to leave the requisite number of buds; and when these are one inch and a half long, re-shift the plant into a similar or a smaller-sized pot, getting rid of the old soil and a portion of the roots if any are at all decayed; grow vigorously, and there will be no want of fine flowering shoots if those cut back in spring had been well exposed to sun the previous autumn. Peat and loam at first, then loam and rotten cow-dung for compost.

DIATEMA.—A small white-flowered Gesnerwort, propagated by division of the roots, and striking its young shoots when two or three inches in height; grows in peat and loam, and requires comparative dryness, and not below 45° in winter.

DICHOISANDRA THYRSIFLORA was alluded to not long ago, and *Gracilis* just requires less care.

JACQUEMONTIA VIOLACEA.—A violet-coloured bindweed from the East Indies, growing in sandy peat, with a little loam, and requiring to be cut back pretty freely when done flowering.

LAGERSTROMIA INDICA, ELEGANS, &c.—These plants do best when grown freely in a forcing-house or plant-stove, with a little bottom-heat when come-at-able, placed in a warm greenhouse when in bloom, exposed to the full sun out of doors or in the front of a house in

September, and water curtailed as the days shorten. In winter any out-of-the-way place below a stage will suit the plants, provided the temperature is not often below 45°, and the soil is as dry as will prevent the shoots shrivelling. All the leaves will have fallen in winter under this treatment, and part of the points of the shoots may be removed. In spring they should receive their final pruning back within a few buds of the base of last year's shoots; and when placed in heat and moisture, and supplied with manure-water at times, the young shoots will grow vigorously, and more light and air being given as they progress, they will produce their rich massive panicles of bloom.

MEDINILLA MAGNIFICA.—This most magnificent of the family will now be over in most places. The treatment has several times been given. It is hardly possible to give it too much heat and moisture in spring; as the shoots extend give more air and sunlight; when in bloom keep the atmosphere about the plant drier, and allow it comparative rest and an open position in winter. The other species are easier grown.

PHYSIANTHUS.—A whitish-leaved, white-flowered, Asclepiad-looking plant, climbing freely, and producing flowers and large seed-vessels in abundance. When planted out against a pillar in a cool stove, it will grow freely in sandy loam. Requires abundance of water in summer, and but little in winter, and to be pretty well pruned back every winter or spring. In a greenhouse, though warm, it would be safest to remove the foliage in November, and prune back in spring.

RUSSELIA JUNCÆA and others bloom best in a warm greenhouse, after they have been grown vigorously in a plant-stove or forcing-house, having been rested comparatively dry and cool in winter, the average temperature at that time ranging from 45° to 55°. When done flowering, alike to benefit the plants and save room, a portion of the older part of the small, rush-like foliage should be removed, to give more room and light to the younger shoots that rise from the stool and base, as from the small, much-divided points of these branches, when well exposed, the myriads of scarlet tubular flowers come. It is easily propagated by cuttings, by layers, and division of the root in spring. Loam and peat suit it well; but as the plants get to a good size, fibry, sandy loam, with a little cow-dung, will grow it to perfection. This elegant plant is met with seldomer than its many claims to attention demand. Most of the other plants mentioned have previously received more ample notice.

R. FISH.

SEASONABLE NOTES ON THE CULTURE OF FLORISTS' FLOWERS.

AURICULA.—The plants should have been potted in June; but if not done yet, no time should be lost. Soil, light loam, rotten cow-dung, and decayed vegetable mould in equal parts. Water moderately; keep clear of weeds; look out for slugs and worms, and destroy them. Keep the plants a month longer behind a low north wall or paling. If heavy rains prevail, shelter from them with oiled canvass. Stir the soil on the surface frequently, to permit air to reach the interior of the soil, and to keep down moss and lichens.

ANTIRRHINUMS.—Cuttings may yet be put in of choice varieties. Cut down decaying flower-stems and gather seeds. Nip off the tops of seedlings, to cause bushy plants for next year.

CARNATIONS.—Unless seed is wished for, all flower-stems should now be cut down. If allowed to bloom too long, the flowers will be out of character. Layers may yet be made, but this work ought to be done early in July. If any layers are rooted, take them up,

and pot them into five-inch pots in pairs. Any light soil not too rich will suit these layers. When potted, place the pots under a cold frame, in order to be able to shelter them from the sun and wind till they are established; then give abundance of air every day, drawing off the lights on all fine, dry days. In dark, wet weather the mildew will appear. See to this, and check its spreading by sprinkling the leaves affected with sulphur. Green fly will sometimes appear at this season. As the plants are in frames, these insects may be easily destroyed by filling the frame with tobacco-smoke.

CHRYSANTHEMUMS.—These autumn-flowering plants will now be in their blooming pots and showing their buds. The only care they require is to give them plenty of water. In very dry weather they will require it twice a day. Every Saturday, or any other fixed day, give them a good watering with liquid-manure. It is a good plan to plunge the pots just up to the rim; but then they should be frequently lifted up, and any roots projecting through the hole at the bottom of the pot should be cut off. If this is not done the plants and flowers will flag very much when brought into the greenhouse. If the green fly appears, destroy it by dipping the ends of the shoots in tobacco-water. Pick off all decaying leaves, and stir the surface of the earth in the pots frequently, adding a thin layer of rotten dung at the time. This will greatly encourage the plants, and cause the blooms to open freely and well developed.

CALCEOLARIA.—These will all be out of bloom now; I mean such as are grown in pots. If any are worth preserving, now is a good time to propagate them. I have seen, lately, some good shrubby varieties, with large, well-formed flowers—a consummation long wished for. They were then in full flower, whereas all the herbaceous varieties were quite out of bloom, and many dead from exhaustion. I have no doubt we shall see this flower as fashionable as it ever was, now that we have got the large flowers of the herbaceous breed on shrubby plants. I have said that now is a good time for propagating these shrubby varieties. The reason for this is because old plants never make such a good bloom as young ones, and if the propagation is delayed till spring there is not time to get strong plants to bloom well that season. Take the cuttings off directly, plant them in small pots singly, and place them in a frame on a gentle heat. They will root in a month, and may then be repotted into a size larger pots, and placed on a shelf in a greenhouse, where they will make nice, stocky plants before the spring.

CINERARIA.—The named varieties of this charming spring flower should have been propagated by division early last month, and will now be nice little plants in 60-pots. If you have plenty of room, give them a shift into rather larger pots, and place them under glass in a cold frame. Seedlings should now be potted off into the smallest pots, and placed under glass likewise. To grow these plants finely, they should be frequently potted, until, finally, they are in five-inch pots, in which they may remain all the winter. They keep most healthy in a cold pit, providing they are securely protected from frost, and kept rather dry in frosty weather.

THE DAHLIA.—It has been the practice of some writers of late years to decry the beauty of this fine autumnal flower, and set up the Hollyhock, as being much superior in beauty. I cannot in conscience subscribe to this opinion, but am willing to grant that both are handsome, and, in conjunction, form a grand floral display, such as our grandfathers had no conception of. The Dahlia, independent of its beauty, has one undoubted advantage over the Hollyhock, and that is the much longer continuance of its bloom.

At this particular season the culture of the Dahlia consists in keeping the branches securely tied to stakes,

to prevent the equinoctial winds from breaking the large side-shoots off from the main stems. If the plants have been grown and properly managed, they will have many branches, and should have a stake to each large branch. Generally speaking, there should be one strong stake in the centre, and four others at about eighteen inches from the central one. If an amateur was to visit any of the gardens of the great growers, such as Mr. Turner, of Slough; or Mr. Bragg, of the same place; Mr. Keyne, of Salisbury; Mr. Edwards, of York; or Mr. Harrison, of Darlington; and many others, he would find all their Dahlias tied out in that manner. There must be no neglect in attending to this point, for strong winds may come when least expected, and then the untied branches, heavy with large foliage and flowers, would certainly be broken off and destroyed.

Another point to be attended to now is the protection of the flowers from wind, rain, and insects. Whoever wishes for, or is ambitious of obtaining prizes, must adopt some of the various methods in use to protect his flowers, and preserve their rich or delicate colours in perfection for the exhibition table. A wire frame in the cup form, and covered with oiled paper or canvass, is an excellent protector. It may be suspended over the flower by being fixed to a stake. Common garden-pots fixed to a stake form a good shelter; but the best is a square box, with one side glass to open, and a slit at the bottom to allow the stem of the flower to slide into it, and thus bring the flower to the centre of the box. It has then light and air, and is securely protected.

Insects that trouble the Dahlia are the slug, the earwig, and the thrips. The first may be kept under by watering with lime-water, or place a circle of lime round each stem, renewing it occasionally to keep it pungent. Sometimes they creep up the stem, and feed on the leaves and flowers. Such should be diligently sought for morning and evening, and gathered up and destroyed. The *earwig* is a more difficult insect to capture and destroy. It feeds in the night. Many a fine flower I have had completely spoiled by this pest. It just nibbles off the ends of the petals, rendering that bloom unfit for exhibition. Various methods are resorted to to catch them. I have frequently gone out after dark with a lantern and a vessel of hot water, and caught them in the very act of feeding on the petals. This is a good method where they abound. It is a nocturnal thief, prowling about when honest insects have crept into their hiding-places. As soon as daylight appears it slinks away out of sight into some dry cranny. This propensity is taken advantage of. Small garden-pots half filled with dry moss or hay, are placed upside down on the tops of the stakes, or dry, hollow Bean stalks are placed among the branches. These traps should be examined every morning, and the earwigs (if any are found) shook into a pail of hot water, and thus got rid of. Mr. Edwards, of Birmingham, has invented a very excellent Earwig-trap, which is good for that purpose, as I have seen proved, and can, therefore, recommend it to our readers. It has been advertised in *THE COTTAGE GARDENER*, which advertisement, no doubt, our Dahlia-growing friends have seen. The *thrips*, when it prevails to a great extent, which it does in long-continued dry weather, is more destructive to Dahlia blooms than any other insect. The leaves turn yellow from its sucking out the juices, and the blooms are rendered spotted and almost colourless. White Dahlias look as if they had been dusted over with black pepper, and thus rendered utterly unfit for competition. The worst of it is there is no artificial effectual remedy or preventive against their ravages. Happily, this year, there has been such a succession of heavy showers of rain that they have not as yet made their appearance that I have heard of. As wet seems to be their bane, they, perhaps, may be

kept under by frequent and severe syringings with tepid water.

I was, the other day, in the garden of Mr. John Turner, of Ncepsend, near Sheffield (a name familiar to our readers from his having invented a new budding knife), and he pointed out to me a new pest of the insect tribe that had bored holes in the foliage of his Dahlias and Hollyhocks, attacking principally the youngest leaves, almost destroying them, and also the young flower-buds. It is a jumping insect, like a small grasshopper, and is of a greenish-white colour. Mr. Turner destroys it by giving the whole plant a smart stroke; the insects jump down to the ground, and are then helpless and easily crushed with the foot. I do trust this insect is confined to that garden, for I have not observed it in any other.

Cuttings.—Many of our amateur friends may not be aware that cuttings of Dahlias may yet be successfully struck. Many years ago, I struck cuttings as late as the end of September, and kept them well through the winter. Whoever has purchased the 10s. 6d. varieties would act prudently to put in cuttings of each as soon as possible. If there is a gentle hotbed at work, they will strike sooner than in a cold frame. It is best to put each cutting in a thumb-pot, and as soon as it has pushed roots to remove it into the open air, plunging the pots in coal-ashes. Here they may remain till frost cuts down the tops; then put them in a greenhouse or cold pit well secured from frost. By thus increasing the number of plants of such new expensive sorts, the chances of keeping each variety alive are multiplied. I have known many a new variety lost when the ground root only has been depended on for the succeeding year's supply of plants.

GERANIUMS.—The old plants will now be making fresh shoots, and require then to be turned out of their pots, the balls reduced, and the plants put into as small pots as the roots can be got into; then place them in a cold frame, shading from sun, giving very moderate supplies of water, the grand object being not to obtain gross growth, but short, dense shoots, well clothed with green, healthy foliage.

Cuttings may yet be put in; but it is more preferable to have them well rooted by this time, and even potted off. Treat the cuttings the same way as described for the established plants, excepting the reducing of the balls, which should be kept entire. As soon as they are fairly established give plenty of air, and nip off the tops, to cause them to break out many shoots, to form nice dwarf, bushy plants. Remove them into the greenhouse as soon as frosts begin to appear, and keep them well supplied with water till the end of October. After that water more sparingly. T. APPLEBY.

(To be continued.)

THE DAY OF GREAT THINGS.

By the Authoress of "*My Flowers*."

I MUST throw myself upon the indulgence of my readers. I have hunted from beginning to end of *THE COTTAGE GARDENER*, and I cannot alight upon the sketch I wish to find. They must "be to my faults a little blind," as they ever have been, and suffer me to call the subject of this paper by a different name from the one I formerly bestowed upon him, for I cannot remember what that name was. I will now draw the portrait of Jonathan Wild.

Among those who frequented the poor widow's soup-kitchen, the most regular, thankful, correct in payment, and quiet in behaviour, was this young man.

He had met with a dreadful accident as a boy, in consequence of an act of wilful disobedience; his arm was taken at once out of the socket, and for a very long time he was in a bad state of health; but at length he recovered, and was so great an object of interest to every one, that, had he

been steady, he would have been well provided for. He was *not* steady; he grew up idle, prone to drink, ready for any mischief, and disinclined to any good thing. He was not able to do much work on account of his loss; but he was placed in the village school with a stipend—for he was a “good scholar”—and that was an employment he could compass with ease. But, alas! he could not be quiet; he was begged off once when in disgrace; but the sinful habit of drinking overpowered him, and he very soon lost his place. A kind and charitable lady befriended him as much as she could, out of compassion to his helpless condition, but she was obliged to give him up also, he was so idle, disorderly, and drunken. Jonathan Wild was sure to be in the midst of any mischief, and his name was up for poaching, too. He had a poor old father, to whom he was very violent; in short, there was scarcely any evil that could not be laid at his door; and he looked ruffianly and wretched. At last his poor old father was removed to the Union, and his cottage taken for another tenant. This was a severe blow to Jonathan, for he now had no home but the village street; and in wet and cold weather that was a comfortless retreat. At length he was permitted to sleep in the stable belonging to a public-house. It was a dirty, cold, windy place, but it was better than the street, and to that dangerous neighbourhood he retired at night. Year after year passed in idleness and sin. Sometimes he was employed to go errands, dig in the fields (which he learned to do expertly), and earn a trifle now and then. This preserved him from actual starvation; but his employers too often paid him in beer, which not only ministered to his vice, but kept him hungry and ill clothed, and he looked the most degraded, squalid object in the whole parish.

It was like life to poor Jonathan when he first ventured into the soup-kitchen, and purchased a basin of warm soup. The Christian feeling of the poor widow made her kindly and courteous to all, and she asked him to eat it by the fire; for he was almost perished, and deep snow drifted in after him, driven by a fierce east wind. From this hour Jonathan's few pence were spent wholly on soup. Twice in the day, whenever he could earn a penny or two, he was by the warm fireside enjoying what was to him a new existence, and hearing at the same time close and practical instruction from the widow's lips. Tears would frequently roll down his cheeks as she “reproved, rebuked, exhorted,” and drove truths of startling power home to his conscience. Still he came. Day after day, during that severe season, was Jonathan seated quietly by the great black pot. He was a man of remarkably few words, and of very respectful demeanour at all times where the fair sex was concerned; so that the widow met with no rude or improper language, and, in fact, had it all her own way. Deprived of her own children, her loving heart turned tenderly towards the homeless outcast that sat and listened to her unflinching truthfulness. Her heart yearned towards him; and when the soup concern closed she still allowed him to make her cottage his daily refuge, took to mend one poor tattered shirt, while he wore the other, and washed his things, to make him look a little more like a human being. It was sad uphill work to the aged widow. His evil ways were so deeply rooted that her spirit often fainted within her. Several times she closed her door against him, till his repentant pleadings overcame her. “Granny,” he has said, “I have no one to take care of me but you. If you give me up, you'll see the end of me.”

Within the last few months, however, the fruit has appeared—small, but hopeful. Some ladies had taken an interest in poor Jonathan since the widow adopted him, and, when they could, employed him. They encouraged him by words and deeds, and he had a heart, in spite of beer and recklessness. The widow ploughed up the soil, and put in goodly seed. This is too often left undone in similar cases. Friends urge, and encourage, and persuade; but there is a deeper work still, and that work the poor widow understood and executed. She dug deep, and showed him the abominations that lay hidden within him, and the unsullied purity of Him with whom he had to do. Jonathan is not ignorant, and knows “Granny” is speaking truth. He cleaves to her in spite of her lectures and rebukes, and is as a son to her. For many weeks now he has changed his habits. He is not lounging so often at the idle corner; he has not once been

drunk; and on the day of the Peace rejoicings, when the widow's heart quailed at his going to the town, he returned in perfect sobriety. Articles of clothing have from time to time been given him, which his second mother patches, repairs, and washes; so, when sent on an errand now, he looks clean and well dressed—so different from what he was only fifteen months ago!

The poor widow's mite is shared with this poor fellow. She gives him part of her scanty meals, and when he earns a trifle—for he is really hardworking and willing—he lays it at her feet. The poor widow's principal care for him is his sleeping apartment—a wretched stable! The straw is taken away, besides, so that the hard ground is his bed, and his poor bones ache severely. He has a thin blanket to wrap himself in, and that is all. The widow “reads the law” to him, as she says, and places before him his sins, and their just punishment. She leads him to mark that he himself threw away great advantages; that “he sowed the wind,” and is now justly “reaping the whirlwind;” and that though he may turn sincerely to the keeping of God's commandments, yet the consequences of sin long follow at our heels, and we must humble ourselves beneath the wholesome chastening.

Readers, I could scribble on much longer about poor Jonathan and the widow woman, who has been bidden by the Lord to sustain him, but my space is filled up. Take warning by him; take courage towards *your* “day of small things;” very large things may spring from it. If *one soul* is snatched from destruction, who can count the blessings? It may be the day of *great things*! You shall hear again of the widow's adopted son, of all his sufferings and privations, and, I trust, of the complete conversion of his heart to God. Reader! think upon these things.

NOTES FROM PARIS.

THE distribution of prizes awarded to the young Art-Students of the third *arrondissement* took place about a week ago in the *Jardin d'Hiver* of the Champs Elysées, and as I was kindly furnished with a card of invitation, I had an opportunity of witnessing the interesting ceremony, and examining the vegetable productions of the establishment, which, indeed, has been in existence for several years, and may be compared to a large conservatory like that in the Regent's Park. The mode of heating in winter is by hot-water pipes carried all round the house in the floor at the margin of the walk. The glass gradually rises from the bottom to a central line in the roof, which, at the outside, has a gangway the whole length, for the convenience of the workmen who have to look to the shading during the hot, sunny weather.

The arrangements of the ground have been carried out with much taste. There is a handsome fountain and basin with gold fish near the upper end, and, quite at the extremity, a series of broad steps, over which the water, when it is let on, falls gushingly to the bottom, in imitation, no doubt, of the original contrivance, on a much larger scale, at St. Cloud.

This conservatory contains one of the best examples of the Norfolk Island Pine (*Araucaria excelsa*) which I have seen. It has, indeed, grown too high for the roof, which is, perhaps, thirty-five feet in height, and an opening has been made in the glass for its top shoot, which is now some ten or fifteen inches in the open air. This is really a fine, handsome tree, with the lower branches bending gracefully downwards, and very regular all round. In the reserve grounds there are numerous large and luxuriant specimens of this beautiful Pine, but none of them are more than half the size of that in question.

Next to the *Araucaria* may be mentioned a magnificent *Pandanus odoratissimus*, about fourteen feet through. The *Pandanus* seems to be a favourite among plant-growers on the Continent, for it is to be found in almost every collection; yet it is really a touchy neighbour in a house, and must be kept as far from the pathways as possible. *Phenix dactylifera* is seldom far off where you see the *Pandanus*. In the present instance, there are one or two specimens of it about twenty feet high. There are also several examples of

Ficus elastica and young *Musas* from eight to sixteen feet high.

One of the most effective objects in the house is a *Corypha umbraculifera*, fully twenty feet high. Then come three or four stately and somewhat graceful trees of *Bambusa arundinacea*, nearly thirty feet high. Of the broad-leaved *Astrapea Wallichii* there is an example about twenty feet through. Near this is the *Eugenia uniflora*, called, in French, *Cerisier de Cayenne*.

Among the other more noticeable objects are some good specimens of *Bonapartea gracilis*, *Cycas revoluta*, together with several scores of large Orange-trees in tubs. The latter, however, are kept in the open air at present.

The *Jardin d'Hiver*, as will be seen, has very little or nothing at all in the way of flowering plants or shrubs to make a show, and relieve the sombre monotony of the dark green; and all I could see in flower were one or two straggling bushes of *Lantana* and *Habrothamnus*. There is, however, no lack of ornaments in the way of vases and statues. There is also a neatly-formed rockwork, which is, for the most part, filled with Ferns.

In reference to the late Exhibition at Chelmsford, M. Borie, who, as it appears, was among the foreigners present, has a few notes in the *Revue Horticole*, from which I shall extract one or two items, to show the terms in which he speaks of English horticulture. "It is well known," says M. Borie, "that our neighbours are great amateurs of floriculture. The sun refuses to ripen their fruits, but they console themselves in cultivating, either in their magnificent conservatories or in the open ground, all the rarest and most beautiful flowers in the world. Chelmsford much resembles a large *bourg* or *chef lieu de canton*. Suppose, then, that in one of the *chefs lieux de canton* in our lovely France a Horticultural Exhibition is got up, I ask you what could be got together? If by chance there were found in the neighbourhood a rich amateur, having a good gardener, he would have to be at the expense of the whole Exhibition.* If there were no such amateur, the Exhibition would be made up of a few poor Roses and some modest Resedas. Save in some very particular and highly-privileged counties, in order to get up just a passable Show, it would be necessary to have the contributions of several *arrondissements*.

"It is not so in England. The little town of Chelmsford and the Squires of the neighbourhood got up one of the most beautiful Horticultural Exhibitions which I have ever seen." As it is the fashion to print catalogues here, M. Borie seems to have expected something of the kind at Chelmsford. He is, however, highly pleased with the Show in point of richness and profusion, and, naturally enough, he hailed the tricolours, beside the flag of England, with emotions of pride and satisfaction; but all he could do in the midst of so much was to make a cursory survey.

With respect to our mode of placing the plants so as to give them effect, his opinion is not so favourable. He thinks there was very little arrangement, but a good deal of rustic disorder. After noticing some of the more striking among the plants, he says, the vegetables were very fine; but that is nothing surprising in England, where the humidity of the temperature much favours the culture of all sorts of kitchen vegetables.

But what especially excited the surprise and the admiration of all the French who visited the Exhibition was the fruit. There were White Muscat Grapes, beautifully ripened and bloomed, and which might have been supposed to have ripened under the burning sun of Roussillon;† enormous Peaches and Apricots, rich and downy; and all these fruits in such large quantities that you might have thought it was an Exhibition in the South of France. But is the flavour of these fruits equal to their brilliant colours and their fair proportions? We may be allowed to doubt it, at least, to avoid a humiliating reproach to the sun, which they seem to have been able to dispense with.

Probably, as one of the results of M. Borie's trip to England, there is in the last number of the *Revue* an article with engravings from THE COTTAGE GARDENER.

* M. Borie in this instance makes use of the English word, which, in general, has a different application in French. *Exposition* is the French for what we call Exhibition, as Lord Brougham once reminded his noble peers in correcting them of a vain desire to give Prince Albert's grand scheme of 1851 a fine foreign name.

† A Province in the South of France.

The subject is the arrangement of the Orchid-house at Penllergare.

After having for at least six weeks intensely hot and dry weather, we have now a considerable abatement, at least 10° Fahr. A great deal of rain has also fallen during the last few days.—P. F. K.

WELLINGTONIA GIGANTEA.

WE have already furnished our readers with a brief account of this magnificent giant, and the testimony is ample in proof of its vast dimensions; but the following extract from Dr. Winslow's communication, at the same time that it is graphic and precise, gives the height rather greater than other accounts that we have met with:—

"The *Great Tree* (thus he distinguishes the *Wellingtonia gigantea*), is peculiar to the Sierra Nevada, and grows nowhere else on the globe. I may even add, as far as my information extends, that it is entirely confined to a narrow basin of 200 acres at most, of which the soil is silicious and strewn with blocks of Lignite. This basin is very damp, and retains here and there pools of water; some of the largest of the trees extend their roots directly into the stagnant water, or into the brooks. There are more than a hundred which may be considered as having reached the extreme limits of growth which the species can attain. One of our countrymen, Mr. Blake, measured one, of which the trunk, immediately above the root, was 94 feet in circumference. Another, which had fallen from old age, or had been uprooted by a tempest, was lying near it, of which the length from the roots to the top of the branches was 450 feet. A great portion of this monster still exists, and, according to Mr. Lapham, the proprietor of the locality (and who has undoubtedly appropriated to himself all trees by right of occupation), at 350 feet from the roots the trunk measured 10 feet in diameter. By its fall, this tree has overthrown another not less colossal, since at the origin of the roots it is 40 feet in diameter. This one, which appeared to me one of the greatest wonders of the forest, and compared with which man is but an imperceptible pigmy, has been hollowed, by means of fire, throughout a considerable portion of its length, so as to form an immense wooden tube of a single piece. Its size may be imagined when it is known that one of my companions, two years ago, rode on horseback in the interior of this tree for a distance of 200 feet, without any inconvenience. My companions and myself have frequently entered this tunnel and progressed some sixty paces, but have been arrested before reaching the end by masses of wood which have fallen from the ceiling. Near these overthrown giants others still are standing, not inferior to them in size, and of which the height astonishes the beholder. I can mention three particularly, which, entirely isolated, grow near each other so systematically as to appear to have been planted purposely to produce the effect. A fourth is remarkable in having, between 50 and 100 feet from the ground, its trunk divided into three enormous branches of the same size, and nearly parallel, extending to a distance of more than 300 feet. Others are distinguished by the straightness of their trunk, comparatively as delicate and erect as that of a Pine-tree, and which are not less than 350 feet in height. At some distance may be seen a species of knoll rising from the surface of the ground, and which is merely a half-developed knot, the last remains of one of these monsters, which have fallen centuries ago and are now buried under the soil.

"I am informed by Mr. Lapham that the wood of one of these trees is remarkable for its very slow decomposition. When freshly cut the fibre is white; but it soon becomes reddish, and by long exposure to the air acquires a colour nearly as dark as mahogany. Its consistence is rather feeble, nearly resembling the Pine or Cedar, but the bark covering it differs materially from the latter. It is excessively thick near the foot of the tree, sensibly elastic on pressure, and is readily divided into a mass of fibres closely resembling those constituting the husk of a cocoa-nut, but much finer. About this portion of the trunk it is split in every direction by deep cracks, but at the elevation of 100 or 180 feet, it is almost smooth, and not more than two inches in thickness. At this point the bark is removed from the living tree for exportation. [How can such a

sacrilege be tolerated?] A hotel has been built alongside of the 'Great Tree,' the bark of which was exhibited last year at San Francisco, and on its overturned trunk a sort of ladies' pavilion has been erected, which serves as an elegant promenade. In order to fell it the trunk was bored, by means of a very long and powerful auger, with many holes very near to each other, and arranged circularly; but even when almost detached from its bases its immense mass resisted all efforts to overthrow it. Four days subsequently it was blown down by the wind. It shook the earth when it fell, and made for itself a deep furrow in the ground in which it lies, at this moment, half buried."

Now, to read simply of a tree 450 feet high, we are struck with large figures, but we can hardly appreciate the height without some comparison. Such a one as that through which the horseback journey was performed would stretch across a field twenty-seven rods wide; if standing in the Niagara chasm at Suspension Bridge, it would tower 200 feet above the top of the bridge; if placed in Broadway, New York, at the head of Wall Street, it would overtop Trinity steeple by 160 feet, and would be 230 feet higher than Bunker Hill monument, Boston; or 270 above Washington monument, Baltimore. If cut up for fuel, it would make at least 3,000 cords, or as much as would be yielded by 60 acres of good wood-land. If sawed into inch boards, it would yield about 3,000,000 feet, and furnish enough 3-inch plank for 30 miles of plank road. This will do for the product of one little seed, less in size than a grain of wheat.

By counting the annual rings it appears that some of the oldest specimens have attained an age of three thousand years. If this computation is correct, and we see no reason to doubt it, they must have been as large as our best forest trees in New York in the times of Homer and the prophet Elijah; and venerable and towering giants during the Carthaginian wars. In other words, "the Roman Empire has begun and ended" since they commenced growing. We hope the small plantation which comprises their whole number will not share the fate of the world-renowned Cedars of Lebanon on their native mountains, now reduced to a dozen in number, but that they will be protected and preserved, and only those that fall by old age, be removed for exhibition. It would, of course, be idle to talk of transporting such a monster to this part of the country, weighing as it does some five thousand tons, and a portion of its shell only may be secured as a fragment in natural history.—(*The American Country Gentleman*.)

IMPERISHABLE POTATO FACTORY.

(From an American paper.)

WE heard, a short time since, that there was established in this vicinity, at Hinesburgh, Vermont, a factory for putting into a very portable and almost imperishable form the edible substance of potatoes, without injury to its qualities as an article of food. From the importance of such an operation to the agricultural interests of this state, the report excited a lively interest in our mind, and we set ourselves to ascertain the character of the process, and see how far it was deserving of special attention.

Many years ago M. Appert contrived a mode for preserving both vegetables and meats, when once properly cooked, for many years, without any sensible alteration. This method (called to this day Appert's method), was, to fill a close tin case absolutely full of the cooked food, leaving but a small hole open; then to heat the case for a considerable time in boiling water, in order to drive off all the air contained in the contents; and when that was done effectually, to solder up the hole, so that not a particle of air could find entrance. This process, when absolutely well done, prevented all fermentation and putrefaction. The case could be carried to any climate, and kept for years. When the food was wanted, the case was cut open, and the food, when properly warmed, was like that freshly cooked. Great use has been made of provisions so preserved for vessels. But the process is too expensive a one to be resorted to where economy is much of an object; and, besides, the slightest omission of accuracy in conducting it is followed by a

certain failure in the result. Thousands of cases have been thrown away when the contents were not needed, because a little air left in, or allowed to get in, had led to their souring, and consequent putrefaction.

But there is another method. Taking the hint, perhaps, from the preservation of tea, mosses, &c., by drying, some years ago experimenters found out that our common vegetables, such as cabbages, turnips, carrots, and potatoes, might be taken fresh, thoroughly dried (so promptly as to allow of no incipient fermentation), and pressed and packed close in tight vessels, so as to exclude moisture, and in that state kept for long periods. For use, it was only necessary to soak them in fresh water, when they would recover their full bulk, and on cooking be found to differ very slightly indeed from others which were fresh. Here was an important discovery. The expense was small, the reduction of bulk enormous (a thing of great consequence for shipping and travellers), and the preservation was complete. Government commissioners in Europe examined the processes, and tested and approved the results, and at once the preparation came into use under their sanction. The application of this method to potatoes at the Hinesburgh factory is substantially as follows:—

Being thoroughly cleansed, deprived of the skins, and properly prepared, fresh currents of air are moved in contact with the potato pulp by machinery. The air rapidly takes up and carries off the moisture. The material is made to take the shape of tubes (macaroni fashion); and, when perfectly dry, is broken in a proper mill into the form of what is called "samp," or "hominy." Indeed, it might be easily mistaken for that article, made from common yellow Indian corn. By the process it has lost nothing but water. But by that loss it is made to occupy but one-sixth of its original bulk, and what before weighed four pounds now weighs but one pound. In that condition it can be packed in tight casks or in tin canisters, and be transported just as easily as so much dry rice. Years of trial have proved the unchanging character of the preparation.

Now then for the use. For one pound of it take three pounds of boiling water; or, to speak cookery-book fashion, put one teacupful of it into about four teacupful of boiling hot water. In ten minutes the water is entirely absorbed, and the result is a well-cooked dish of mashed potato, ready to be salted and buttered, or dealt with as a like dish made from the fresh potato might be. The taste differs but slightly from fresh potato prepared in the same manner. We speak advisedly, for we have tried it. Though we think any one would prefer to crush for himself a fresh mealy potato, if he were in a condition to chose, we have often, within the last five years, had to be content with using potatoes tasting not a whit better than the article we are speaking of—hardly as good, even.

It is difficult to comprehend at once the great importance of such a preparation of the potato. To a very large portion of the human family the potato is an article of prime necessity for daily food. All who have been accustomed to use it feel the deprivation severely if placed beyond its reach for any considerable time; while the bulkiness and perishable nature of the tubers, in its natural condition, make its transportation for great distances, by either land or sea, an impossibility. For the want of it the health of crews on long voyages, and of soldiers or other persons occupied away from where it can be procured, is often greatly injured. In some districts, too, where it is relied upon as the chief article of food, great distress is caused by the failure of a crop, because the want cannot be supplied, except at an insupportable expense. Let the preparation of this "imperishable potato" be made common, and all these evils are done away with. Government ships, whaling vessels, and merchant ships, will make it a regular part of their stores. It will occupy nearly the room of ship biscuit, and can be kept in store with less risk of spoiling. We are informed that European vessels already make it regularly a part of their stores, when going on voyages across the tropics; and that the discovery ships, under charge of Dr. Kane, were supplied with it. Travellers across the Continent, and inhabitants of those parts of our country where the vegetable cannot be raised successfully, must eventually find the prepared article a most convenient one for use.

THE WHITE-STEMMED AMARANTH.

SEEDS of this were presented by Captain Hall, Berwick-upon-Tweed, with a communication, from which the following are extracts:—

"The excellence of this vegetable consists in its succulency and tenderness, or freedom from anything of a stringy, fibrous character. These qualities depend on being brought forward early by rapid growth, so as to be in a state fit for use in a month or so; and this is effected by means of a rich and rather light soil, an ample supply of moisture, a moist, still atmosphere, and high temperature—the latter may be varied occasionally as high as 90° in the day-time, and regulated at from 70° to 75° at night. With respect to light, the direct rays of the sun are not essential; on the contrary, too much or constant sunshine is prejudicial; a condition in which the direct rays are frequently intercepted by thin light clouds is more favourable to the rapid growth of this vegetable than unbroken sunshine.

"The preceding remarks are based on the conditions which I have observed to be most favourable to the rapid

development of this plant in India, where the best time for raising it in perfection is the early part of the monsoon or rainy season, just after the first fall of rain in June, when the ground has been well saturated with moisture; and the parching state of the air, as it exists in the hot season, has given place to excess of moisture. At this period the atmosphere is usually calm, or only agitated with light breezes, and the sun generally obscured by a thin lazy cloudiness, sufficient to intercept or break the direct rays, but transmitting considerable heat to the earth. This state of things often continues for six or eight weeks, only varied by occasional rainy intervals, the temperature in the shade ranging from 72° to 85° day and night. During the period just described, I have had plants of this Amaranth which attained full growth for use within a month from the sowing of the seeds, being at that time near one foot and a half high, and as thick in the stem as the middle or second finger. As the season advances—in August—it becomes less favourable to the growth of this vegetable; a decided change takes place

in the electrical condition of the atmosphere, the sun shines out more frequently and more brightly, the air becomes drier, and there is a manifest tendency in all succulent vegetables to acquire hardness and stringiness of fibre, and to run into flower.

"I have entered into this minute detail of the natural season in India for the purpose of indicating the distinct conditions of climate necessary, on the one hand, for producing this vegetable for use; and, on the other hand, for perfecting its growth with a view to obtain seeds. A common Melon-bed and frame, made sufficiently high inside for the plants attaining from one foot to one foot and a half in height, would be a suitable place for growing them in. The earth, rich and light, should be about three quarters of a foot in depth, and the upper part of the fermenting materials in an advanced state of decomposition, to afford nourishment to the roots penetrating through the earth, which would greatly add to the luxuriance of their growth. The plants might be pricked out to about six inches distance from each other. As much sunshine is not wanted, it might be serviceable, in an unbroken succession of bright weather, to throw a thin light cloth over the glass during part of the day, to soften the intensity of the sun's light. The circumstance of a deficiency of sunshine or clear weather being rather advantageous than prejudicial, is favourable for the forcing of this vegetable in the early part of the year, when the weather is generally so uncertain and gloomy; and as it may be brought forward in the short space of a month or little more, a constant succession may be readily kept up by the use of only two frames. Of seed, I consider an ample supply might be obtained from one or two plants raised in April or May, which being allowed to perfect their growth and gradually inured to a drier atmosphere, would ripen their seeds in September or October.

"This plant is used as a vegetable for the table in two ways: 1st, the plants are pulled up and cut off just above the roots; the leaves are plucked off and dressed like Spinach and other spinaceous plants, in which respect they are not inferior to any kind I am acquainted with. 2nd, the stems and side-branches (being the white parts of the plant) are separated from each other, cut into proper lengths, boiled, and placed on toast like Asparagus, or simply in a dish, and eaten with meat, either with butter sauce or meat gravy. They form a very elegant dish, and their inviting appearance is sustained by their



Amaranthus albus.—The White-stemmed Amaranth.

succulency and tenderness to the taste, though possessing no particular flavour; and in my opinion they bear a favourable comparison with Asparagus and Sea-kale. In summer I consider this vegetable would be found very grateful.

"To acclimate this vegetable by successively raising from fresh seeds, ripened under circumstances progressively approximating the climate of England, would not, I think, be difficult; and my reasons for inferring that it might soon become adapted for ordinary garden culture in warm and sheltered situations are, that the plant is hardy, and belongs to a genus of plants which are well known to be all of easy culture—that its period of culture for the table is comprehended in little more than a month, for which, therefore, there is ample scope in the summer months—that the moist and somewhat uncertain climate of this island is well suited to it, as it grows best in a moist climate, and under a clouded sky, if there be sufficient temperature, and artificial shade may be easily given under too much sunshine—and that as the whole duration of the plant is not more than six months from the time of sowing to ripening the seeds, a few plants, by being brought forward in March under protection, and afterwards planted, would be in a condition to perfect their seeds in the open air in September."

This plant grows to the height of two feet. Its stems are much branched, and both stems and branches are glabrous and beautifully white; leaves ovate; flowers pale green.

The seeds should be sown in rich light soil, and raised in moderate heat. They may be planted out in frames, or potted in compost of rotten dung and light rich loam, and then grown in a vinery or other forcing-house. But there seems, at present, to be no prospect of the species succeeding as an esculent in the open air. After being cut over the plants will push again so as to afford a second gathering.—(*Horticultural Society's Journal*.)

ADVERTISING TRADESMEN.

IN your last two numbers we note a controversy between Messrs. Edwards and Co., and a customer, which amounts to a charge by the latter of a want of courtesy from the former. As brother tradesmen, we would respectfully impress upon Messrs. Edwards that, however small the transaction, every communication in business should, at least, be treated with courtesy; and that neither manufacturing a good and cheap article, nor the advertising of it, will insure an eventually extensive sale without considerate and careful attention to complaints.

On the other hand, every allowance should be made by the public for slight mistakes and omissions to answer letters. Were it only known to what immense dimensions the daily correspondence grows of firms who advertise in your own and other columns, and the amount of time and trouble occasioned by reference, &c., a more charitable spirit would more generally be manifested on these little lapses.

One hint, and we have done. Every correspondent should take care, in writing to a firm with which he has not previously corresponded, to give his name and address legibly and in full. It saves a great amount of valuable time.—B. GREENING AND Co.

DESTROYING DRONES.

THE swarming season being past, the next interesting affair is the slaughter of the drones, or males, by the bees. Some apiarists assist them in the fight, but that is of little consequence, for the fury of the bees is so great, that they pursue the defenceless males, who in vain take refuge in every spare corner of the hive; and those that escape out of it soon return to meet with certain death. Indeed, the whole hive is in an uproar; the bees never cease their pursuit while there is a male alive, and even tear out the brood which happen to be in the cells of the drones. The annual expulsion of the drones from the hives has led to many strange conjectures. Some consider them only as a sort of monsters, or *sports of nature*, and that, being indolent, they deserve to be cut off from the colony; while others think they nurse the brood. In Poland they are called water-

carriers. These speculations, however, require no comment, for though working-bees in hot weather frequent water, it matters not how filthy, the drones never do; and the greater part of the brood is reared during their absence from the hive. They are perfect insects, however; indeed, more perfect than working-bees, who are more like *sports of nature*, for, being bred in small cells, their growth is not complete, but they remain imperfect females. The true charge against drones of not taking any part in the structure, nor adding to the store of the hive, may be equally laid against the queens. Their real use, however, is to impregnate the queens at the swarming season, and thus, having fulfilled their mission, their utility is at an end, and they are expelled as already noticed. The hive-bees are the only insects I am aware of that destroy their males. The drones of wild bees and wasps remain in the nests, but then their services are required, for in both cases the females are bred until the end of the season; while hive-bees rear queens only at stated periods, who only require the males at that time, which satisfactorily accounts for their subsequent destruction.—J. WIGHTON.

SUCKERS OF ARAUCARIA IMBRICATA.

A FEW days ago, when out for a little excursion to Bishopstoke, I, of course, could not return without calling in to see the beautiful and well-known gardens belonging to the Dean of Winchester. In rambling about amongst the excellent collection of trees, shrubs, and flowers which is there gathered together, I was surprised when looking at the fine plant of the Chilean Pine, *Araucaria imbricata*, one of the largest, if not the very largest specimen of it in England. This tree stands alone in a circular bed, just as wide as its beautiful branches extend. In the bed were two suckers, which had evidently put up from its roots. The suckers were about a foot or sixteen inches distant from the main stem of the tree; and I thought this the more remarkable, from never having seen an instance of a sucker produced from a coniferous tree of any kind before. The two suckers were from three to four inches in height, and looking healthy, and likely enough some day to form two separate trees.—T. WEAVER.

MESSRS. EDWARDS'S GARDEN TALLIES.

IN looking over your number of August 19th, I perceive the Messrs. Edwards attempt to defend themselves against my remarks upon the labels they sent me by denying the truth of my statements. I am glad to say, that in this town and neighbourhood, where I have been well known for upwards of thirty years, my character for truthfulness will bear investigation. I again repeat, I never received any reply from Messrs. Edwards but the one I sent you, a copy of which you inserted in your useful journal. With regard to my remarks respecting the thickness of the Tallies, I was doubly led to expect the thickness I named, because the sample I had exactly corresponded with the size afterwards advertised. I beg to enclose for you samples of each kind, from which you will see the difference between the size advertised (the same as the SAMPLE I received) and the size actually sent, and I feel sure you will again agree with me that my remarks were not uncalled for.

The sizes sent as samples ran twelve and nine to the inch. The size I received (see sample I send) ran fifteen and sixteen to the inch.

From the many instances of "fair play" I have seen in your journal, I feel sure you will oblige me by the insertion of this letter. I shall not take any further notice of the Messrs. Edwards, because I really feel my time and your pages may be better employed than in again noticing such epistles as the one I have this day remarked upon.—L. R. LUCAS, *Louth*.

[The Tallies sent to us by Mr. Lucas are fifteen and sixteen to the inch. The controversy had better now conclude.—ED. C. G.]

HOT-WATER HEATING APPARATUS.

As the subject of boilers and heating has been treated upon very ably by Mr. Fish, in his description of the apparatus in use at Messrs. Weeks', and as the subject is one of such vast importance as not to be treated lightly, I venture to record a few facts which have presented themselves to me at various times since heating by hot water first became fashionable, or rather, since I became acquainted with it, which was practically in 1830; and though there are a few instances in which this agent was used some time before that period, still I believe there are few hot-houses which date its introduction more remote than that, and though hot-water pipes and tanks have assumed many different forms, and doubtless, in some cases, some improvements, I cannot efface from my memory the simplicity and efficiency of the system by which two vineries were heated by one boiler, erected about that period, and which I had the management of some two or three years after. So easily and efficiently were these worked that I have often thought that "hot-water heating," as a branch of horticultural science, came into the world in a greater state of perfection than that of most other things; in fact, I am far from certain if it has not degenerated, for the fire-place, boiler, and pipes which heated the houses above mentioned required less attention than any similar contrivance I have had to deal with since, and, as I have before said, did their work so well, that I have since wondered why the principle on which they acted was departed from. I am certain nothing has been gained by it in a general way; but in certain cases another system might be requisite. Now, I believe the general principle on which hot-water apparatus first appeared was to have the top of the boiler and the top pipes on the same level, and the return-pipe lower. The pipes of the houses alluded to above were much larger than those generally in use now, and a flow and return-pipe alone traversed the front and ends in the usual way, the one being above the other, and both connected by an elbow turn, or small box cistern, in the usual way, there being openings on the top of the top pipes, with lids, whereby a little steam could be let off at times as wanted, these openings serving, at the same time, the means of filling the pipes with water; but I always found the houses were most easily heated when the pipes were about two-thirds or three-fourths full; of course, I mean the top pipes, the bottom ones being in all cases full. The boiler was a large, old-fashioned saddle-backed one, with a good, capacious fire-place, and the whole exceedingly simple in construction, the top of the boiler being large. There was a lid to take off, large enough for a man to get into it to clean out any accumulation of dirt, &c., and as there were no stop-cocks, a large wooden plug was sometimes put into the mouth of the pipe leading into the house not intended to be heated at the time. This, of course, was not so easily got in and out as the turning of a tap; but a tap that has got rusted with neglect or want of usage is not in every case so easily turned as might be expected, and these appendages are expensive. Now, we all know that the present system of heating by hot water is to place the boiler as low as possible, and lead a pipe, or series of pipes, from it to some eminence, from which it is allowed to descend again, both routes being often circuitous, the ascent, whether long or short, being called the flow-pipe, and the descent, in like manner, the return-pipe, the latter entering the boiler at some low point. I believe that practice has decided that hot water will travel to a greater length when on the ascent than when its road is on a level; still, I am far from certain that this fact has been proved so satisfactorily as has been assumed, especially in the cases

of solitary hothouses of moderate dimensions, where it is not necessary to travel far. The old-fashioned mode gave the most positive proof of the rate at which the water travelled; for it was only to drop a small piece of paper into one of those openings spoken of, and wait for its appearance at the next opening. This unequivocal proof of circulation was much looked into at that time, boys and young people being much amused to see its motion so far from the fire. Now, what I most admired in the old-fashioned mode of heating was the simplicity and ease with which it was accomplished, and the non-liability of any of its parts to get deranged. A capacious wrought iron boiler is not so likely to fall a prey to hard work as a small cast iron one, when they have both the same amount of heated pipe to work; only it is proper to observe, that the above was put up in a land abounding in large boilers, there being several within the circuit of a very few miles that might vie with moderate-sized haystacks for size. Of course, these last-named were for driving ponderous machinery, but I never could learn that anything could be gained by curtailing the boiler to such small dimensions as some have been. It is all very well to talk of exposing a large surface of it to the action of the fire. I have seen some that would not hold sufficient fuel to serve them more than two hours, besides the trouble they give to those having the management of them in other respects, their parts all being too small, from a mistaken notion that economising fuel was the most necessary merit, whereas time or labour is as valuable as firing, and to amateurs and others doubly so.

I now enter on the question which has latterly been broached by my worthy coadjutor, Mr. Fish—the one-boiler system, which the Messrs. Weeks, of London, so strongly recommend. Unfortunately, I cannot enter into the views of those who advocate the one boiler alone, and I am glad to find Mr. Fish of the same opinion. I happen to know the evils of boiler-bursting to some extent, having had two accidents of that kind the present winter at the place I write from. Fortunately they were small boilers, heating one house only, but supposing that a large one, heating a series of houses, was to fail in very severe weather, and there was no other mode of communicating heat to those houses, I guess the advocates of such heating would be reconverted to the old system again; and large boilers are liable to such accidents as well as small ones, and the more so when they are corrugated, intersected with pipes, or carried into fantastic forms, which they often are, to suit the taste or whim of some hunter after novelty; all these nonsensical appendages adding to the cost of the article, without improving its utility in like proportion; for though the increased amount of surface exposed to the fire may economise that article, it may be obtained at too great a sacrifice of time; the old proverb that "gold may be bought too dear" at times being applicable to this case, as in many others; and though there may be a saving by having only one fire to attend to, when one boiler heats a number of structures instead of several, I am fearful of the consequences when an accident does happen. The Messrs. Weeks being in the trade, with all the staff and materials at hand to repair such disasters, ought not to be compared to those living a hundred miles or more inland, and possibly several miles from where such a misfortune could be rectified in less than a week; and I need not picture the evils of having the whole of the exotic and forced productions subjected to such a calamity.

I confess being a disciple of the utilitarian school, in many respects, and, consequently, discard novelty, except in flowers and some other things, where the eye and other senses affected by it are to be gratified; therefore I cannot admit the plea of one boiler coming under

the latter claim; and though one fire-place is easier managed than several, and a large one more easily than a small one, I am yet fearful of being told some frosty afternoon that "the boiler has burst." If I could be perfectly assured that such an emergency could not happen, and that the working of the rest could be usefully carried on, I do not see any reason for opposing it as a useful measure, as I calculate it has one of the qualifications I always bargain for in hot-water heating apparatus—a capacious fire-place and ash-pit.

The many modes of applying hot water in heating other structures than hothouses have, no doubt, tended to diffuse the usefulness of the various plans adopted; but there is one great evil to which they are often subjected, and which, I fear, cannot be got over—the pipes must in so many cases be concealed. Certainly, the plan lately adopted, of making them assume the character of a piece of furniture or other ornamental article, will, when more fully carried out, prevent the waste attending burying the heating apparatus in masonry, with only small apertures here and there to let out the heat. I have seen what appeared to me a beautiful marble side-board form the heating contrivance to a room, and do its work well; and, no doubt, when ingenuity is fairly directed that way, many more improvements in heating will be effected. Churches, to my knowledge, have been heated by hot water since 1830, and the only drawback that I could see to the plan adopted in an edifice of that kind in a rural district, was the unpleasantness of walking on the gratings which enclosed the pipes running up the aisles; in other respects it acted very efficiently, and was more agreeable than the too common bad smell arising from Arnott's and other stoves, which form such ugly appendages to so many of our public buildings.

J. ROBSON.

DESTROYING CRICKETS.

I WILL tell you how I have got rid of hundreds by means of a common white, glazed jar, about nine or ten inches high, put in the place they infest, with a slice or two of Cucumber in it, and one live cricket as a decoy. They will hop in, and, strange to say, have not the power to hop out. It is not well to destroy them daily. When the jar is one-third full of insects, have it filled with boiling water. I never found them injure anything, although I had them in my kitchen for years. I got rid of them by this simple method. I have heard that Cucumber will destroy them, and they are very fond of it.—A ONE YEAR SUBSCRIBER.

AMERICAN CULTIVATION OF POTATOES.

WE were in the town of Watervliet a short time since, and called upon several farmers in the town in order to ascertain a few facts in regard to the cultivation and yield of their staple crop. We went along three roads, enclosing a triangular piece of land containing somewhat more than a square mile, and called on thirty farmers whose houses were near the road. These thirty farmers raised the past year *seventy-six thousand six hundred and twenty-two bushels of potatoes*. Several of the farms were more than half planted every year with potatoes, and on two or three farms three-fourths of the land were thus occupied. On one farm, that of L. and A. Gove, 8750 bushels were raised this year. D. D. T. More, on 55 acres, raised 6250 bushels. The Messrs. Osborn on 88 acres, 7710 bushels. J. Ferris, 7500 bushels, and many others raise annually three, four, and five thousand bushels of potatoes.

The yield per acre is not large; the average of those farms where we could ascertain the number of acres planted was 102½ bushels per acre, the highest farm being 133 bushels per acre—in this instance three-fourths of the farm (a small one), was in potatoes.

Peruvian guano is used to a considerable extent, and is found a cheap and effective fertilizer. In one instance we found a field where potatoes had been grown four years in

succession manured with guano, and the crop this season was the best it had ever produced, averaging 150 bushels per acre. It is somewhat remarkable that this light, sandy soil, which we should suppose poor in all the mineral elements of plants, but especially in potash, should thus annually yield a fair crop of potatoes, which of all our agricultural plants removes from the soil the most potash; and that Peruvian guano should prove such a powerful fertilizer, while of all manures it is the poorest in potash—containing not more than 2 per cent.

A good clover sod, ploughed under immediately before planting, is considered the best preparation for potatoes, though, since the introduction of guano, potatoes are frequently planted after potatoes, corn, rye, &c. Plaster, about two bushels per acre, either sown broadcast or scattered on the hills just as the plants are breaking the soil, is an effective fertilizer, and is used to a considerable extent. Plaster on this sandy soil has a highly beneficial effect on clover.

Potatoes of medium size are usually planted whole, in hills about 2½ feet apart, 10 bushels of seed per acre. Plant as early in the spring as the soil will admit, and many farmers continue planting as late as the first week in June. We saw some planted the 10th of June, but the crop was light. The Mercer, although a poor producer, is the favourite variety, now commanding the highest price. The *Long Johns* will yield one-third more per acre, but they bring a less price, and when the market is dull, it is difficult to sell them at all.

A few farmers still draw manure from the city, three miles, but since the introduction of guano the practice is becoming less common every year.

We met with a few good old farmers who had never tried guano, and had "no faith in it;" but all who had used it, without exception, thought it a "powerful" manure; yet we were somewhat surprised to find that not one could give even a good Yankee guess as to the number of bushels of potatoes over and above the unmanured soil 100 lbs. of guano would produce. Mr. D. D. T. More used 200 lbs. of Peruvian guano on potatoes side by side with "Northern Marl,"—an article, we believe, which is said to contain a large quantity of phosphate of lime: the marl did *no good*, while the guano "increased the crop fully one-third." Mr. More's crop averaged 113 bushels per acre, so, according to this, 200 lbs. of guano increased the crop to 28 bushels per acre. The *safest* way to apply guano is to sow it broadcast, and plough and harrow it in immediately; but it will produce a greater effect if placed in the hill with the potato, but great care is necessary to incorporate it well with the soil, for it will assuredly kill the seed if it comes in contact with it.

There is nothing remarkable about the method of cultivating potatoes in this district; the reason why farmers have engaged so extensively in their cultivation is to be ascribed to the almost total exemption from the rot, which is so injurious in richer and heavier soils.—(*The American Country Gentleman*.)

ETYMOLOGIES.

MARIGOLD.—Shakspeare has (*Cymb.*, Act II. Sc. 3):—

"And winking *Mary-buds* begin
To ope their golden eyes."

From this we may conclude that the original name was Mary-bud, or Mary-flower, synonymous terms. But why was it so called? Johnson, in a careless sort of way, says these may have a reference to the Virgin Mary. I think, on the contrary, that it was with Mary Magdalen that this flower was connected. This Mary is always represented as a mourner grieving for her sins, and in constant attendance on our Lord, the *Sun* of righteousness; and the Marigold, we see, was connected with the sun, in whose absence it was closed. We may further observe, that its name in French is *souci*, in Portuguese *saudade*, terms expressive of mourning and regret. I would recommend the subject to those who are better qualified than I am to pursue it. A curious article might be written on the connection of the names of plants, flowers, &c., with those of persons. I must, in fine, add my protest to those of scholars in general against the shameful manner in which the character of this most respectable woman has been taken away, in making her, without even

the shadow of a proof, and against all evidence, to have been a woman of loose life. Unfortunate women are called Magdalens; we have Magdalen asylums, and even the adjective *Maudlin*, to denote the lachrymosity of drunkards; and such like.

BUD.—I have hinted above that this word was nearly synonymous with *flower*. It is evidently so in the place there quoted, and in *Love's Labour Lost* (Act V. Sc. 2), along with daisies, violets, and lady-smocks, we have "*cuckoo-buds of yellow blue*;" and in Sonnet 99,—

"And buds of *Marjoram* had stolen thy hair."

But I believe the original sense of the word was that which it still retains in *rose-bud*. In Shakspeare I find it almost always used of flowers alone, and I have not examined other writers. The derivation I take to be *bout* (Fr.), "end," &c., noting the termination of the stalk. It is true I have met with no instance of the employment of *bout* in this sense, but it may have been so employed in the Middle Ages. At all events, the diminutive *boulon* has this sense, and it may have been clipped, like some other words, by the English.

WORMWOOD.—This is an instance of the practice, to which I have more than once adverted, of giving foreign and other words a form which has a meaning, though literally a wrong one. The Anglo-Saxon term, still to be found in Wickliff, is *wermod* (from *werig*, weary, depressed, and *mod*, mind), i. e., melancholy, answering to its German name *wermuth*, which may be i. q. *schwermuth*.

TITMOUSE.—It seems strange that a bird, and if not a bat, should be called a *mouse*. The reason I take to be as follows:—Among our ancestors, *mouse* was a term of endearment. In the *Knight of the Burning Pestle*, the favourite term for his wife with the Citizen is *mouse*, and Hamlet says to his mother (Act III. Sc. 4):—

"Let the bloot king tempt you again to bed;

Pinch wanton on your cheek; call you his *mouse*."

Now, the *Parus*, or titmouse, is a little bird very "familiar to man," and fond of keeping about his dwelling, and so becoming a kind of favourite, he was called *mouse*; and, on account of his size, *tit* (which is only another form of *little*, *tit*le, in fact, being *little*); and then (by the alliteration which gave robin-redbreast, willy-wagtail, jack-daw), tomtitmouse, and so, finally, *tomtit*. We have, by the way, *tit* again in *titlark* and *tit-warbler*. I presume that *titlark* is merely a corruption of *stickleback*. We have also *tit*, a little horse, and then a young girl; and a "*tit bit*" is a nice small delicate portion of food.—THOS. KEIGHTLEY.—(*Notes and Queries*.)

NEW BOOKS.

THE AQUARIUM.*—The great popularity the Aquarium has justly acquired as an in-door source of recreation and instruction necessitated such a work as Messrs. Dean have here furnished. Its appearance has been most opportune, and the manner in which it has been prepared renders it not only a "plain," but a *sure* guide to the management of the animals and plants with which an Aquarium is furnished. Indeed, any one who knows nothing of the subject may, with this little book in his hand, and with an ordinary amount of common sense to understand what it says, successfully, and with pleasure to himself, set about making and stocking an Aquarium such as would do credit to Mr. Leach or any other professional furnisher.

AQUARIUM THERMOMETER AND HYDROMETER.—Our readers will remember that, some months ago, we introduced to their notice a horticultural thermometer invented by Messrs. Negretti and Zambra, of Hatton Garden, London, and which has been found so very applicable to the purpose for which it was intended. The same gentlemen have now forwarded us specimens of two new instruments they have constructed for the use of the Aquarium. The one is a small floating thermometer, for ascertaining and regulating the temperature of the water; and the other an hydrometer, for ascertaining the specific gravity of the water in the salt-water or marine Aquarium.

The importance of both of these subjects in the manage-

ment of the marine Aquarium is such that we would never recommend any one to trust a valuable collection to what is called "rule of thumb," particularly as regards the specific gravity. The specific gravity of sea water is 1.028, and if this is either increased or diminished the result will be a total loss of the animal life contained in the Aquarium. If by evaporation the specific gravity is found to increase, fresh water must be added; and if too much has been added, so as to diminish the strength, then the necessary ingredients must be introduced; but these matters can only be regulated by the use of the instruments in question, which are neat, portable, and cheap, both being supplied, packed in a box, for 4s. 6d.

ARRANGEMENT OF FLOWERS IN PANELS.

I HAVE tried my flower-garden this season in the shot-silk style. Everybody says it is beautiful, but I do not like it quite myself. There is a muddled appearance about it. But it has suggested to my mind what I shall call panel gardening, i. e., a margin of mixed colours, such as *Koniga maritima*, *Lobelia erinus oculata*, *Verbena Melindres*, *Ecnothera riparia*, *Calceolaria rugosa* (pegged close down), and *Verbena Melindres alba*. These intermixed make a beautiful edging about a foot or fifteen inches wide; the centre of the bed to be all one colour—scarlet, purple, white, &c., as the case may be.

My garden consists of about 100 beds of different sizes, circles, and oblongs, and are arranged along the sides of straight walks, with weeping trees, Irish Yews, &c., intermixed. My most effective beds are some circles having a margin of *Verbena Melindres alba*, *Koniga*, and *Lobelia*, with the centre *Calceolaria rugosa*. These beds always arrest my attention, and force me to stand and admire them. They are, in fact, what you call "lady-like," and, like the sex, are irresistible, and will almost do for "luxury embedded." At least, they are of the same style of beauty.

I have a very effective bed, nearly circular, about twelve feet over, composed of—outside ring, *Blue Anagallis* and *Calceolaria rugosa*; second ring, *Mangles' Bedder* Geranium; centre, *Ingram's Variegated*, mixed with *Brilliant de Vase* *Verbena*, *Queen Victoria* Rose in the centre as a standard. All my beds have Roses or other shrubs as centres; oblong beds have two Roses and one Irish Yew as centres, with Fuchsias between them, the ground-work being either shot-silk or panelled. Weeping trees, &c., are introduced between in angles, and give a grace to the whole.—JOHN SCOTT, *Merriott Nursery, Crewkerne, Somerset*.

QUERIES AND ANSWERS.

GARDENING.

DOUBLE-GLAZING AN ORCHID-HOUSE.

"I have had a small Orchid-house erected, and as Orchids require plenty of light, and partial shading from scorching sun, and as I have no one to attend to the routine of gardening when I am away from home, do you think that, if I have the top double-glazed (that is, having a number of spare lights, I was thinking of placing them on the top of the other lights of the Orchid-house, at the distance of about one inch and a half), I should require any shading? The house faces the west.—G. J. S."

[There is no doubt your plan of double-glazing the roof of your Orchid-house would do away with the necessity of shading, and, consequently, the house could be left safe at any time, providing sufficient air was given.

The plan would also in winter help to keep up the interior heat to a considerable extent, and thus save fuel.

Another advantage would be the prevention of the condensation of water on the inside of the glass, and thus there would be no dripping on the leaves of the Orchids, which is always injurious, especially in winter.

It may be some satisfaction to you to know that James Bateman, Esq., of Knypersley Park, near Congleton, had formerly, and may have now, an Orchid-house double-glazed, which answered admirably. All the Orchid world knows that Mr. Bateman is a most successful cultivator of

* *Plain Instructions for the Management of the Aquarium, or Tank for Gold and other Fish, Water Plants, Insects, &c.* London: Dean and Son.

these curious and beautiful plants, so that you need not fear following his example in double-glazing your Orchid-house.]

OAK-GALLS.

"What an amazing quantity of Oak-galls there are again this year! The trees are literally covered with them in Devonshire. Could they not be made use of for tanning purposes?—A READER."

[There are a great many Nut-galls this year, and they might be used for tanning and dyeing; but the question is, Are they in sufficient abundance to pay for the gathering? The galls most prevalent in Hampshire, this year, issue from the buds, are perfectly globular, and with a polished, smooth surface. These are the consequences of the punctures made, and grubs hatched in them of the *Cynips quercus terminalis*. Some smaller galls, also quite smooth and globular, are on the leaves of the Oak. These are caused by the similar attacks of the *Cynips quercifolii*.]

DISLODGING BEES.

"Will some of your readers tell me how best to take a quantity of honey made between the boards of a large granary, which several swarms of bees have taken possession of?—C. R."

[Without seeing the cavity between the boards where the bees are we cannot state exactly the best way to get their store. Once we had a great quantity of honey from a similar place, by making an opening opposite the entrance to afford a draught for tobacco-smoke, when it was puffed in among the bees. The top boards were then removed, and we found the combs curiously made in the cavities between the beams, some of which were only two inches deep, but the whole extended more than a yard in breadth. We destroyed the sickly, robbed bees, and made the place secure, to prevent other swarms taking possession, to the great satisfaction of some cottage bee-keepers, who had lost their swarms in that favourite place.—J. W.]

BLACK CHAMPION, TREBIANA, AND GOLDEN HAMBURGH GRAPES.

"In your number for August 12th of the present year mention is made, in the leading article, of 'two Black Champion' Vines being planted. Also, in a former number, some time ago, the same Grape is mentioned by Mr. Beaton as superior to the Black Hamburgh. Will you be so kind as to inform me through your columns what kind of Grape the Black Champion is? what its distinctive good qualities are? and in what respects it differs from the Black Hamburgh? Also, where cuttings of it, true, or plants are to be obtained?"

"Will you, also, or any of your readers, kindly give me information respecting the Trebiana Grape? Is it hardy, fruitful, and of good, high flavour, as well as a good keeper?"

"I have had a Vine sent to me with a high character, under the name of *Lady Downs*—from its foliage a distinct variety. Can you tell me what kind of Grape it is?"

"And, once more, I should be glad to know whether you have further tested the qualities of *Busby's Golden Hamburgh*, and can report upon it.—O. M., of Sheffield."

[We do not know what *Black Champion* Grape Mr. Beaton referred to in the paper you mention, but that which is noticed in our leading article of August 12th is a very distinct and superior variety. The bunches are large, and not shouldered; berries of the largest size, sometimes as big as a pigeon's egg, roundish-oval in shape, and perfectly black, covered with a beautiful bloom. The skin is thin; flesh firm, sweet, and richly flavoured, with rarely any stones, but sometimes with one. The berries are thickly set, and colour well. It is three weeks earlier than Black Hamburghs, and, altogether, a very distinct variety. The variety we have described is to be obtained of Mr. Adams, Nurseryman, Brentford, of whom the plants in question were had.

The *Trebiana* is a White Grape, grown at Welbeck, which Mr. Tillery considers one of the best White Grapes, and which keeps in good condition till the end of March. From

what we have seen of the fruit we consider it well flavoured.

We do not know *Lady Downs' Grape*. We suspect it is only a local name for another variety.

Busby's Golden Hamburgh continues to maintain, and will maintain, the high reputation it has gained. It is a first-rate Grape.]

MESSRS. STANDISH AND NOBLE'S SALE.

"I see with regret that the plants in the gardens of Messrs. Standish and Noble are to be sold by auction. I trust it is not the intention of both gentlemen to retire from the business. Perhaps you can kindly give information on the subject.—A CONSTANT READER."

[The sale at Standish and Noble's will only be of a small portion of their nursery stock. The sale will take place in consequence of a dissolution of partnership. Mr. Standish will continue the business at the original nursery, and Mr. Noble will carry on a business a few miles distant.]

TO CORRESPONDENTS.

FLOWER-GARDEN (J. W., Matlock).—You should have standard Roses in No. 1—three tall ones, at three feet apart, in the centre, and six half-standards in the six inner angles close to the edge; and three tall standards in No. 3; their position to be determined from the drawing-room window after stakes are placed in No. 1 to represent the Roses. The place is so unbalanced that you cannot use standards in No. 2, unless you prefer being out of ordinary ways. 1 and 2 are very well planted now; but 3 is outrageously bad. For mixed Geraniums, plant *Salvia fulgens* and variegated *Ageratum* in a line across the front of them only. For White Petunia, take the second or the best variety of *Shrubland Rose*. You were imposed on with seeds of *Lobelia ramosa*; it never seeded yet. No wonder yours being "straggling." A selection of mixed *Verbenas* is the only thing you can use appropriately where your *Ramosoides* stands now; and mixed greenhouse Geraniums should never be put into a bed which forms but part of a whole. In a bed "by itself" they come in very well, and better on mixed borders.

MELONS (Idem).—The hybrid which Mr. Fleming himself exhibits never weighs more than 2 lbs. or 2½ lbs. It is of a golden yellow, shining, and in shape like a Vegetable Marrow of that weight. We have often tasted his produce at the Shows, and we like his Melon the best of all, unless it be the true old *Egyptian Green Flesh*, which is a small, round, much-netted fruit. When a Melon of any kind is nearing ripeness it should have all the air which the climate will allow of night and day, and only as much water at the roots—not over the bed—as will keep the plants from actual flagging. That is just how Mr. Fleming's Melon.

VARIEGATED IVY (C. R.).—You can obtain it of any of the nursery-men near London. If they do not happen to have it in stock they can procure it.

LAYING DOWN GRASS (A. G.).—On no account sow the sweepings of a hay-loft; you will have as many weeds as grass plants. Write to any of the seedsmen who attend specially to this subject, and who advertise in our columns, such as Messrs. Sutton, or Rendle, or Gibbs, or Lawson. Tell them the nature of your soil, and the size of your ground; they will send you the right quantity and varieties of seeds; and the seed will cost you very little.

PROLIFICNESS OF THE DESIDERATUM PEA.—An Amateur says, "Having had two seeds of the *Desideratum Pea* given to me last spring, I sowed them, and one of them produced green pods, and the other black pods. The green-podded produced 100 good seeds (Peas), and the black-podded 105 Peas—making, altogether, 205 Peas from two, which I think a very nice crop, and which I intend to grow again next year."—[What is the *Desideratum Pea*?]

WATERPROOF CLOTH.—J. C. says, "Reading a paragraph in No. 408 of THE COTTAGE GARDENER, on waterproof cloth, you will greatly oblige me by inserting answers to the two following questions in your next number:—1st. What quantity of sugar of lead and alum is necessary for a gallon of water? 2nd. How long should the cloth be immersed in the solution?"—[We shall be obliged by replies to these queries.]

FURZE (Hedge).—The best mode of forming a Furze-hedge is by sowing the seed where the plants are to remain.

CHINESE TREE.—Our friend says that the fruit of the tree from which a leaf was sent by S. W., *Guernsey* (page 373), is called, by the English, *Percimmon*, and by the Chinese, *Sitza*. Various books written on China speak of this fruit. Fortune, in his "Wanderings in China," speaks of it as a tree with yellow-coloured fruit, somewhat like Tomatoes. We can give no further information.

COTTAGE GARDENERS' DICTIONARY (E. Johnston).—A Supplement containing the new matter, we believe, will be published.

STUPEFYING BEES BY CHLOROFORM.—T. M. would be obliged by B. J. B. informing him if, since an article headed, "Stupefying Bees by Chloroform," in THE COTTAGE GARDENER, Vol. XIII., p. 85, was written, he has made any further experiments of the kind there mentioned; and if so, whether he is still of the same opinion, or can favour our readers with any suggestions that may occur on the subject.

FLOUR MILL (A Subscriber).—Apply to Messrs. Dray, who advertise in our columns; they will send you drawings and all particulars.

NAMES OF PLANTS (*A Kentish Subscriber*).—It is *Convolvulus althæoides*, or Silky-leaved Convolvulus. This is a curious plant, now but rarely seen, and should be planted in some quiet spot where it can remain permanently undisturbed, nor interfered with by any other plants. A narrow border, at the foot of a wall facing the south-east or west, suits it well where there is not room for any other plant. (*E. Johnston*).—*Asplenium adnigrum*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

DORCHESTER. Sept. 17th and 18th. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close Sept. 1st.
ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. *Secs.*, G. E. Attwood, and W. A. Warwick.
GLOUCESTERSHIRE. Nov. 26th and 27th. *Sec.*, E. Trinder, Esq., Cirencester. Entries close Nov. 1st.
LEOMINSTER. Thursday, October 16.
NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. *Sec.*, Richard Hawksley, jun. Entries close November 19th.
NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 14th and 15th, 1857. *Sec.*, John Spencer, Nottingham.
SOWERBY BRIDGE. Sept. 5th. *Sec.*, F. Dyson, Esq., Sowerby Bridge. Entries close August 29th.
N.B.—Secretaries will oblige us by sending early copies of their lists.

ON THE COMPARATIVE ENTHUSIASM WITH WHICH THE DIFFERENT BREEDS ARE CULTIVATED.

IF the question had been put to me some time since, as to what particular variety of fowls had the most interest taken in it by the rearsers, I should have most probably replied, either Cochins, or, perhaps, if asked recently, Hamburgs.

How far I should have been right or wrong has been proved by a very simple circumstance.

I have recently forwarded to every exhibitor in the kingdom, whose name and address were known, a printed and engraved form to be filled up with a description of some one variety; this having been done with reference to the new edition of the "Poultry Book."

The numbers that have been filled up and returned may, I think, be fairly regarded as a measure of the interest taken in the different breeds by those who rear them.

There is one breed which, if we judge by this standard, has a greater hold on the sympathies of Englishmen than any other. Every possible variety of it has been described, and, in a very great number of instances, has application been made for additional forms, the number that has been returned to me being as great as that of all the other varieties taken together. Let our readers ask themselves, what is this breed that is thus admired by so many, and whose points are known to so large a number that I am literally overwhelmed with their descriptions. Is it the Dorking? No. That seems confined either to wealthy amateurs, or to the drier and warmer soils in the south-east angle of England. The Spanish, however great a favourite near town, is not elsewhere the popular fowl. Cochins, black, buff, white, and grey, have seen their palmiest days. Surely it must be Hamburgs, then?—the Pheasants and Mooneys of the canny north-countrymen. True it is, that I have received a multiplicity of descriptions of these most useful and ornamental breeds from many of the most successful exhibitors. But, for one description of Hamburgs, I have received at least five of Game, which has been described by all ranks; from the poor man, who has often given their characters in terms more pointed than polished, to the rich amateur who has bred evidently for the cock-pit. It may, perhaps, surprise many of my readers to be informed that cock-fighting, though barred by law, is still very extensively practised in many parts of the country. I know now, even within a very short distance of my own residence, several lots of Game fowls out at run, which are kept for fighting; and, on inquiry, can always hear of mains coming off, although they are more frequent in the northern and midland than in the southern districts.

Judged by this standard, therefore, the Game, and not the Dorking, must be regarded as pre-eminently the English fowl; and I regard Mr. Furneaux as paying a high compliment to our Hibernian countrymen when he states, "The

Game cock is formed on the exact model of the high-bred Irish gentleman. With the least possible tinge of strut, the result of exuberant animal spirits, its deportment exhibits a happy combination of Celtic swagger, tempered with Saxon sobriety.

In point of symmetry, carriage, and elegance it is not to be surpassed. It may fairly be called the Apollo Belvidere of the poultry-yard. The Dorking and Shanghai may exhibit a more portly presence; the Polish and Spanish may be more unique in their peculiarities; the Malay may exceed him in Paul-like stature; the Hamburgh excel in variety of plumage; and the Bantam out-Herod him in consequential importance; but, nevertheless, he everywhere predominates as "cock of the walk," where he moves "every inch a king." No tyrant is he in the bad sense of the word; for though he moves arbitrarily, he is no bully, but rather the setter down of those who misuse their power. Before him the Turkey Cock and Gander conduct themselves with sauvity, and even the worrying Muscovy Drake forgets to tease."

After reading this vivid extract from the "Pentelogue," my own plain matter-of-fact statement will fall wearily on the ear; and I therefore at once conclude, remembering that

"After a well-graced actor leaves the stage,
The eyes of all are idly turned on him who enters next,
Thinking his prattle to be tedious." * * *

W. B. TEGETMEIER.

THE RUNTS.

COLUMBA DOMESTICA GIGANTEA.

French.
PIGEONS ROMAINS.

German.
DIE GROSZE HAUSTAUBE.



A RUNT, in the common phraseology of Pigeon-fanciers, means nothing more than a common mongrel; but the Runts of which we are about to speak are held in much greater esteem; they are the largest of our domestic Pigeons—indeed, the giants of the race. They are found mostly on the shores of the Mediterranean Sea, though, perhaps, more abundantly in Italy.

Aldrovandi, in his Ornithology, divides them into clean-footed and feather-footed, and calls them *Trontos* and *Asburnellatos*. He says there is a difference in the length of the beak; but he considers the colour of the plumage of no account.

The Germans have several varieties of the large house Pigeons, or Runts, among which *Die Hinkel Taube*, called also *Florentiner* or *Piemonteser*, is worthy of notice. They are as large as a small hen; they are smooth headed, short necked, stout bodied, long legged, and have a short tail,

which they carry somewhat raised; the head, too, is often thrown back with a tremulous motion, like the Fantails; the middle wing feather is usually double; their plumage is generally blue-pied, and they breed very well.

The large Runts are but little cultivated in England, and, consequently, are less known.

The four principal varieties are the Leghorn, the Roman, the Spanish, and the Norwegian Runts. The first is, to quote an old authority, a stately, large Pigeon, long legged, very broad chested, short backed, and carries its tail raised. It is a close-feathered and firm-fleshed bird. The neck is long and bent; the eye lies hollow in the head, and has a thin cere round it; the beak is very short, the upper mandible bending slightly over the under, and being surmounted with a small wattle. The Spanish Runts are very differently formed birds from the preceding; they are the longest in body and wings of any Pigeons I have seen; they are short necked, short legged, and loose feathered. The best I have seen of this breed were at St. Omer, France, where they were called *Tigre Espagnol*. They were dark, black mottled; and so long were their pinion feathers that they rose with difficulty from the ground.

Roman Runts resemble the Leghorn, but have larger beaks and more wattle; they are not so short backed, and do not carry their tails so much elevated.

But the largest I ever remember seeing were some white feather-footed Pigeons from Belgium, which, I believe, were called Norwegians.

From the scarcity of good Runts, they are much prized, and, from the same cause, they are frequently over-fed, which, combined with the want of fresh blood, causes them often to prove bad breeders and nurses. On the other hand, if they were carefully bred, by matching birds not related, and allowed plenty of exercise, and less stimulating food, I have little doubt but they would soon become a great acquisition to our poultry establishments.—B. P. BRENT.

TRIMMING POULTRY.

I FREQUENTLY read in your Poultry Chronicle of the system of trimming, tail-tying, shaving, &c., which is carried on among exhibitors at our Poultry Shows, which I am pleased to see are sometimes discovered, and made known to amateurs who are not enabled to see for themselves. I am convinced, if things go on much longer as they have been, no honest exhibitor will send birds for competition. There is a system of fraud and deception also carried on among some of our large breeders of Ducks, who have long walked over the heads of those who have shown their birds fairly and without doctoring, and which, as yet, I think, has not been detected—I mean the *scraping of the Duck's bills*! A well-known exhibitor and successful prize-taker, who shall be nameless, has for some time been fortunate enough to carry on this system without detection, making a bill of a very dark colour, which would be condemned at first sight, into one of the required colour, and thus insuring either a first or second prize. To every exhibitor I would say, Watch well the pens of birds which receive the prizes, examine them minutely, and I have no doubt, if deceptions are practised, some "lynx-eyed" visitor will discover them.—ARGUS.

POULTRY EXHIBITION OF THE NOTTINGHAM CENTRAL ASSOCIATION.

THIS is to take place at Nottingham on the 14th and 15th of January, 1857, and its prize-list, just out, is liberal and attractive. We advise all exhibitors to apply for copies, and to support the Show. Besides offering various cups and medals, as well as high money prizes, it contains many novelties, and among others *thirty-six* prizes for CANARIES. These prizes vary from £2 to 10s., and those who are not "well read up" in this by-path of Natural History will be surprised to find so many varieties of this chamber songster. There are Yellow Belgians, Buff Belgians, Jonque London Fancies, Mealy London Fancies, Spangled Jonque Lizards, Spangled Mealy Lizards, Yellow Variegated Belgians, Buff Variegated Belgians, Jonque Goldfinch Mules, Jonque Linnet Mules, and Mealy Linnet Mules.

ODDS AND ENDS FROM MY NOTE BOOK.

TURNING EGGS NOT REQUIRED DURING INCUBATION.—In some experiments on artificial hatching, performed chiefly for the purpose of obtaining chickens for dissection, a number of eggs were placed in a small home-made incubator, and were permitted to remain *unturnd* and *undisturbed* until the 16th or 17th day. The chick was in each of the fertilised eggs perfectly developed, and the progress of hatching did not seem at all interfered with by the eggs not having been turned. The eggs of the New Zealand bird, the Talle Galla, are hatched by the bird depositing them in a hotbed of fermenting leaves scraped together for that purpose. They do not appear to be moved during incubation; in fact, they are so fragile that the slightest force breaks the shell; and it has, therefore, hitherto been found impracticable to hatch the eggs under hens.

These facts seem to indicate the error of the commonly received opinion that it is requisite that eggs of a sitting hen should be turned either by the movements of the mother or otherwise.

LENGTH OF TIME FOWLS CAN LIVE WITHOUT FOOD OR DRINK.—Redi, in some cruel experiments, which it is to be hoped will not be imitated in this country, found that, of a number of starved fowls deprived of water, none lived beyond the ninth day, whereas one indulged with water lived upwards of twenty days without food.—W. B. TEGETMEIER.

FIFTY SILVER CUPS!

PRESTON AND NORTH LANCASHIRE POULTRY SHOW FOR 1857.

THIS is to take place at Preston on the 21st and 22nd of January next, and its prize-list is such as never before was offered for competition to poultry exhibitors. There are Fifty Silver Cups. One Cup as first prize, and £1 as the second prize for each variety of fowl, and eight Cups, varying in value from ten to five guineas, for various specified objects. The Pigeon prizes are £1 and 10s. for each variety.

ROYAL NORTH LANCASHIRE POULTRY EXHIBITION.

THIS was held on Thursday, August 28th, in a field adjoining the Bridge Inn, at Peavortham, near Preston, Lancashire. The weather, very unfortunately, was the most unpropitious that could be imagined; the rain fell from day-break until the time for closing the Exhibition, without the lapse of a single instant, in absolutely drenching torrents; hence the attendance of visitors was comparatively limited, although the Show contained many classes of unusual excellence. Among these we may instance the *Spanish* as particularly worthy of attention; indeed, it was the opinion of all amateurs who saw it, that the cockerel in the first prize Spanish chicken pen was by far the best young bird that has been shown this season. There was a great deal of merit about the prize *White Dorkings*, but the *Grey* ones were not nearly so good as we anticipated. The *Aylesbury Ducks* were excellent, but the *Rouens* so very indifferent, that the Judge, Mr. Edward Hewitt, of Sparkbrook, Birmingham, withheld *all* the prizes from this variety. The young poultry classes were by far the best the Show afforded, the adults being mostly in deepest moult, which, being combined with the fact of the pens being erected in the open field, rendered the fowls very uncomfortable, and alike prevented both the visitors and the Judge himself from forming the same positive opinion of their comparative excellence, that would have been easily attainable had they been arranged within a tent. Perhaps another season this contingency against stormy weather will be wisely provided for. Under circumstances so adverse, no committee could possibly exert themselves more than was done on this occasion, and all most unanimously deplored that unfortunate weather alone should have entailed so deep a loss on this long-established society.

WHITE, SPECKLED, OR GREY DORKING (Single Comb).—Prize, Daniel Parsons, Cuerden, Preston. Commended.—Richard Eastwood, Swinshawe House, near Rawtenstall.

WHITE, SPECKLED, OR GREY DORKING (Double Comb).—Prize, John Robinson, Vale House, Garstang.

SPANISH.—Prize, Joseph Tate, Preston. Commended.—Daniel Parsons, Cuerden, Preston. James Howard, Tarleton. Joseph Tate, Preston. (An exceedingly good class.)

GAME.—Prize, Thomas Burnett, Hutton, Preston.

COCHIN-CHINA.—Prize, Richard Teebay, Fulwood, Preston.

GOLDEN-PENCILLED HAMBURGH.—Prize, Joseph Tate, Preston.

SILVER-PENCILLED HAMBURGH.—Prize, John Robinson, Vale House, Garstang.

GOLDEN-SPANGLED HAMBURGH.—Prize, Thomas Wareing, Preston.

SILVER-SPANGLED HAMBURGH.—Prize, Thomas Burnett, Hutton, Preston.

BANTAMS.—Prize, Mrs. Thomas Townley Parker, Astley Hall, Chorley.

GEES.—Prize, William Holt, Bispham Hall, Wigan.

DUCKS (Aylesbury).—Prize, John Weston, Aylesbury.

DUCKS OF ANY OTHER VARIETY (Call).—Prize, Daniel Parsons, Cuerden, Preston.

YOUNG POULTRY.

GOSLINGS.—Prize, Thomas Burnett, Hutton, Preston.

AYLESBURY DUCKLINGS.—Prize, Thomas Burnett, Hutton, Preston. Commended.—Richard Eastwood, Swinshawe House, near Rawtenstall. (A good class.)

DUCKLINGS OF ANY OTHER VARIETY.—Prize, Daniel Parsons, Cuerden, Preston. (Call.) Commended.—Richard Eastwood, Swinshawe House, near Rawtenstall.

DORKING CHICKENS (Single Comb).—Prize, Daniel Parsons, Cuerden, Preston.

DORKING CHICKENS (Double Comb).—Prize, John Robinson, Vale House, Garstang.

SPANISH CHICKENS.—Prize, James Howard, Tarleton. Commended.—Joseph Tate, Preston. John Horrocks, jun., Ribblesdale Place, Preston. (An unusually superior class.)

GAME CHICKENS.—Prize, George Banks, High Gale, Kirkby Lonsdale.

COCHIN-CHINA CHICKENS.—Prize, Thomas Burnett, Hutton, Preston.

CHICKENS OF ANY OTHER VARIETY.—Prize, Joseph Tate, Preston. (Golden-pencilled Hamburg.) Highly Commended.—John Horrocks, jun., Preston. (Golden-pencilled Hamburg.) John Robinson, Vale House, Garstang. (Silver-pencilled Hamburg.) Commended.—Richard Teebay, Fulwood, Preston. (Silver-spangled Hamburg.) Richard Teebay, Fulwood, Preston. (Brahma Pootra.)

THE HOUSEHOLD.

MUSHROOM SAUCE FOR WINE SAUCE.—Take half a pint of cream and a quarter of a pound of butter, stir them together one way till it is thick, then add a spoonful of mushroom-pickle, pickled mushrooms, or fresh if you have them. Garnish only with lemon.

COOKING MANGOLD WURTZEL LEAVES.—Are you aware that the leaves of mangold wurtzel, when boiled, are not distinguishable from good spinach? If used fresh, the leaves need only be boiled in water exactly like common spinach.

OUR LETTER BOX.

ANERLEY SNOW.—We have received letters from *Justicia*, *Brahmas to Sell*, *Metropolitani*, *Nicholas*, and others, all clashing, more or less, in opinions, except in being unanimous that the Brahma award was right. After well-considering the subject, we have come to the conclusion that peace and amity among poultry exhibitors will be best promoted by not publishing any of these letters. For the same reason we refrain from expressing our own opinions upon several points. Let us hope that there will be another Show at Anerley next year, and that it may be a remunerative one.

FATTENING DUCKS (*M. H.*).—Ducklings intended for table should be confined in a warm house, never be allowed to swim, and have an unlimited supply of food. A mixture of three-parts oatmeal and one-part pea-meal, moistened slightly with the washings of dishes, the liquor in which meat has been boiled, or milk, with a few unground grains of barley once daily, fattens them quickly.—Flowers of sulphur are the only cure for *Grape Mildew*. See back numbers.

LONDON MARKETS.—SEPTEMBER 1ST.

COVENT GARDEN.

The supply of Fruit and Vegetables continues sufficient for the demand. *Pears* are over; *Apricots* nearly over; but there are large arrivals of *Green Gages* and other *Plums* from the Continent. Home-grown fruit is now beginning to come in plentifully, and we have observed good samples of *Goliath* and *Denyer's Victoria Plums*. *Grapes* and *Melons* are plentiful, but *Pines* short.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.
" dessert	12s. to 20s.
Pears, per dozen	1s. to 3s.
Peaches, per doz.	6s. to 12s.
Nectarines, do.	4s. to 10s.
Pine-apples, per lb.	4s. to 6s.
Hothouse Grapes, per lb.	3s. to 6s.
Strawberries, per lb.	0d. to 0s.
Foreign Melons, each	1s. to 3s.
English Melons	1s. to 4s.
Morello Cherries, per lb.	1s. to 2s.
Cherries, per lb.	0d. to 0s.
Oranges, per 100	10s. to 20s.
Seville Oranges, do.	0s. to 0s.
Lemons	10s. to 15s.
Almonds, per lb.	9d. to 1s.
Nuts, Filberts, per lb.	9d. to 1s.
" Cobs, ditto ..	0s. to 0s.
" Barcelona, per bushel.....	20s. to 22s.
Nuts, Brazil, ditto.	12s. to 14s.
Walnuts, per 1000 ..	9s. to 12s.
Chestnuts, per bushel	0s. to 0s.

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.
" Red, per doz.	2s. to 4s.
Cauliflowers, each	2d. to 4d.
Broccoli, per bdl.	0d. to 0d.
Savoys	0s. to 0s.
Greens, per doz. bunch.	2s. to 4s.
Spinach, per sieve ..	—, 4s.
French Peas, per bshl.	0s. to 0s.
French Beans, per hlf. sv.	1s. 6d.
Carrots, per bunch ..	4d. to 6d.

Parsnips, per doz.	6d. to 9d.
Beet, per doz.	1s. to 1s 6d.
Potatoes, per cwt.	3s. to 6s.
" Frame, per lb.	0d. to 0d.
" New, per lb.	0d. to 0d.
Onions, Y'ng, per bunch.	4d. to 6d.
" Old, per bushel	0s. to 0s.
Turnips, per bunch.	9d. to 1s.
Leeks, per bunch	2d. to 3d.
Garlic, per lb.	6d. to 8d.
Horseradish, per bundle	1s. 6d. to 2s. 6d.
Shallots, per lb.	6d. to 1s.
Lettuce, Cos, per score	1s. to 2s.
" Cabbage, per doz.	0d. to 3d.
Endive, per score	0s. 0d. to 0s.
Celery, per bunch.	9d. to 1s. 6d.
Radishes, Turnip, per dozen bunches	— to 6d.
Water Cresses, ditto.	6d. to 9d.
Small Salad, per punnet	2d. to 3d.
Artichokes, per lb.	—, 2d.
Asparagus, per bdl.	0s. to 0s.
Sea-kale, per punnet ..	—, —
Rhubarb, per bundle	3d. to 6d.
Cucumbers, each.	4d. to 6d.
Mushrooms, per pot.	1s. 6d. to 2s.

HERBS.

Basil, per bunch	4d. to 6d.
Marjoram, per bunch	4d. to 6d.
Fennel, per bunch ..	2d. to 3d.
Savory, per bunch	2d. to 3d.
Thyme, per bunch ..	2d. to 3d.
Parsley, per bunch ..	2d. to 3d.
Mint, per bunch	2d. to 4d.
Green Mint	6d. to 8d.

POULTRY.

The little demand there is for poultry, owing to the absence of every one from London, causes a diminution of price. Young Grouse are unusually scarce.

Large Fowls 5s. 0d. to 5s. 6d. each.	Quails . . . 2s. 0d. to 0s. 0d. each.
Smaller do 3s. 6d. to 4s. 0d. "	Leverets .. 3s. 6d. to 3s. 6d. "
Chickens . . . 2s. 3d. to 2s. 6d. "	Pigeons 8d. to 9d. "
Geese 6s. 6d. to 7s. 0d. "	Rabbits . . . 1s. 4d. to 1s. 5d. "
Ducks 3s. 0d. to 3s. 3d. "	Wild ditto. 10d. to 11d. "
Young Grouse . . . 3s. 6d. to 4s. 3d. each.	

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Advertisements.

THE USE OF THE AMMONIACAL LIQUOR OF THE GAS WORKS FOR AGRICULTURAL AND HORTICULTURAL PURPOSES.

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 9—15, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
9	Tu	The brown-spot Pinion.	30.164—30.106	73—33	W.	—	27 a 5	27 a 6	11 1	10	2 54	253
10	W	The chestnut Moth.	30.122—30.050	70—36	E.	—	29	25	morn.	11	3 14	254
11	Th	The nettled chestnut Moth.	30.055—30.051	72—37	N.E.	—	31	22	0 22	12	3 35	255
12	F	The dark chestnut Moth.	30.161—30.059	73—39	W.	.20	32	20	1 51	13	3 56	256
13	S	The black chestnut Moth.	29.976—29.887	69—50	S.W.	.28	34	18	3 25	14	4 17	257
14	SUN	17 SUNDAY AFTER TRINITY.	30.007—29.926	54—45	N.E.	.32	35	16	rises.	☺	4 39	258
15	M	The lemon Sallow Moth.	30.093—30.090	64—45	S.W.	—	37	13	6 a 43	16	5 0	259

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 67.7°, and 46.7°, respectively. The greatest heat, 84°, occurred on the 12th, in 1841; and the lowest cold, 31°, on the 9th, in 1851. During the period 105 days were fine, and on 91 rain fell.

LASTRÆA OREOPTERIS.



THIS has been called by botanists *Aspidium odoriferum*, *A. oreopteris*, *Hemestheum montanum*, *Lastrea montana*, *Polypodium fragrans*, *P. oreopteris*, *P. thalypteris*, *P. montanum*, and *Polystichum montanum*. In English it is known as the Mountain Fern, Heath Fern, Mountain Buckler Fern, Heath Shield Fern, and Heath Polypody. The uniform reference in these names to "Mountain" and "Heath" indicates the places which it frequents.

Root, large, black, scaly, and tufted; with numerous stout, matted rootlets. *Fronde* several, growing in a circle, between two and three feet high, erect, spear-head shaped in general outline. *Stem* covered with fine hairs on the upper part, and slightly with pale brown scales at the bottom; pale green and deeply channelled in front. *Leaflets* extending nearly to the bottom of the stalk, almost opposite, stalkless, deeply lobed, so as nearly to form leaflets; lobes bluntly pointed, smooth, except the midrib, which is downy. Underside sprinkled with shining, yellowish, resinous globules, yielding a grateful scent. *Fructification* in a row near the edge of each lobe, and when ripe the round masses nearly run together, forming a brown beaded line close to the edge. The cover (*indusium*) of each mass is thin, white, kidney-shaped, but almost circular, and soon shrivelling up.

It is usually found upon mountain heaths, but it has been found also in shady woods, where the soil is moist.

In *England* it has been gathered at Old Foot's Well, Bromsgrove, in Worcestershire; near Chapel Weardale and Darlington, Durham; at Cawsey Dean, near Newcastle; at Keswick and near Lodore Waterfall, in Cumberland; by the Tees; near Richmond, and in woods at Castle Howard, in Yorkshire; on Coleshill Heath and Corley, in Warwickshire; near Warrington; on Dethick Moor and near Riley, in Derbyshire; in the Isle of Man; on Dallington Heath, near Northampton; on the north side of Shotover Hill, in Oxfordshire; on Oxton and Eddingley Bogs, in Nottinghamshire, and at Hartswell, near Farnsfield; at Couham and Leigh Woods, near Bristol, in Somersetshire; at Bradwell, in Suffolk; in Sussex; on Bailey's Hill, between Brasted and Tunbridge, in Kent; and near Southampton.

In *Scotland*, at Glen Isla, in Forfarshire; in Sutherlandshire; on the banks of Loch Tay; in Aberdeenshire; and at the foot of Craig Chailleach.

In *Wales*, near Wrexham, in Denbighshire; at Llanberris and Nant Gwynedd, in Caernarvonshire.

In *Ireland*, in Powerscourt Deer Park, and Waterfall, Mangerton Mountain; Lough Corril, in Galway; and elsewhere.

This very beautiful and easily distinguished Fern is first mentioned by Ray as a native of this country. He notices it in the Appendix to the second edition of his *Synopsis Methodica Stirpium Britannicarum* as "a variety of the common Male Fern observed by Petiver on Dunsmore Heath, near Rugby, in the county of Warwick;"

and then proceeds to describe it, and to state that it had been mentioned by Plukenet.

Mr. Reeve observes, in a letter with which he has favoured us, that this is a very elegant and useful Fern for growing in pots, or on rocks and other scenery, when successfully cultivated. Although rather shy of being removed, yet, with a little care, it may be successfully treated. We find with this, as with many other plants or Ferns that are rather impatient of moisture remaining about their roots, that they do not like to have the roots disturbed; therefore those who would like to cultivate this Fern should obtain it either in a young state from its native place, or a well-established plant in a pot from a nurseryman, to be planted or potted in a compost of two-thirds fibry peat and one of leaf-mould and sandy loam in equal parts, with a free admixture of silver sand. The pots must be carefully and well drained. Place one large crock or oyster-shell over the hole at the bottom of the pot; then place over this, according to the size of pot to be used, a quantity of small crocks, and above this place a little sphagnum, just sufficient to cover the crocks. The potting may then be carried out in the usual manner, potting rather firmly. Afterwards great care must be taken to see that the Fern does not have too much water, for it is very impatient of excessive moisture. For the rockery or shrubbery it must also have a well-drained situation, or it will not succeed; and also a shady place will be required. The same compost will do for this as for pot-culture, and, whether in the rockery or in pots, a slight sprinkling with the syringe or very fine-rosed pot will be found preferable, during fine growing weather, to the application of water to the roots alone. It is well adapted for either the rockery or shrubbery, and would look much better if planted in masses in the shrubbery in the same manner as mentioned for former species. It may be propagated by division, although with some difficulty, but with more certainty from the mature fructification, which will be ripe by the end of the summer months, and which may be sown and treated in the same way as mentioned for other species.

THE ordinary business of the Meeting of the ENTOMOLOGICAL SOCIETY, on the 1st instant, was preceded by an announcement by the President, W. W. Saunders, Esq., F.R.S., Treasurer of the Hort. Soc., &c., of the great loss which Natural History had sustained in the sudden death of Mr. WILLIAM YARRELL, which had occurred on the morning of the meeting, at Yarmouth. Mr. Yarrell was one of the foundation members of the Entomological Society, and had always taken a lively interest in its success, having, indeed, acted as Treasurer for a long period. As one of the most accomplished naturalists of Great Britain, and as one of the most amiable of men, Mr. Yarrell's loss would be long and severely felt by all who had had the pleasure of knowing him or his works.*

* In addition to his great works on British Fishes and Birds, Mr. Yarrell is known as the contributor of many valuable papers to the Transactions of our various Natural History Societies. He was one of

The Secretary read a list of donations to the library received since the last meeting from the Royal Agricultural Society, the Zoological Society, the Society of Arts, Messrs. Stainton, Newman, &c. Many specimens of rare insects recently captured were exhibited by different members.

By Mr. Wallace a specimen of *Caradrina exigua*, a rare Moth, belonging to the family Noctuidæ, of which only a single specimen was known as indigenous; also, *Botys silacealis* of Hubner, known only as British, under the name of *B. scabralis* of Haworth, by a specimen in Francillon's old collection, in consequence of which it, with various other species similarly circumstanced, had been doubted as British. The last two summers have, however, been remarkable for confirming the authentic classes of several long-disputed species as true natives of these islands.

Mr. Ianson exhibited four species of Beetles of great rarity, which he had recently captured—*Dinarda Merkelii* (*D. dentata* Leach), known only by a single species in Leach's collection in the British Museum, upon which, as upon so many of Leach's rare specimens, doubts as to their native origin had been improperly thrown. It was taken by Mr. Ianson in the nest of the great Red Ant; also, *Dendrophilus pygmaeus* (*D. Sheppardi* of Curtis), the typical specimen of which is in the Kirbian collection in the possession of the Entomological Society, also taken in Ants' nests; *Dorcatonia rubens*, taken in an old Oak-tree, on which many of the larvæ are still feeding; and *Cryphalus binodulus*, a genus of Beetles new to this country, belonging to the Bostrichidæ, the species of which family are ordinarily found under the bark of coniferous trees; but this species was met with in some abundance under the bark of the Aspen.

Mr. Douglas stated that he had noticed *Bostrichus capucinus* in the staves of Currant casks imported from the Ionian Islands.

Mr. Samuel Stevens exhibited a *Phigia* and *Pyratis*, two species of Moths which he had reared from larvæ, found feeding upon the foliage of plants imported from the Island of Madeira for sale, and he suggested the possibility of many species recorded as rare British natives having been reared from imported plants.

Mr. Hunter stated the circumstances connected with the capture of the *Eriopus Latreillii* in the same house where Mr. Stevens's collections were kept, whence he inferred the possibility of its having been similarly imported, although he had actually found it on the door of his breeding-cage.

Mr. Turner exhibited a new species of *Depressaria* from the neighbourhood of Worthing. Mr. Newman exhibited specimens of a species of *Coccus*, of considerable size, covered with a fine, white, woolly coating,

the originators of the Zoological Society, in which he took a lively interest to the last, and also one of the editors of the "Zoological Journal," a very valuable series of zoological memoirs. It would, therefore, be the height of injustice to his memory to disconnect his name with the great movement towards popularising and advancing zoological science in this country which took place about twenty-five years ago, and which has since borne such abundant fruit.

which he had from Dareuth, on blades of grass (*Luzula* sp.?).

Mr. Green exhibited *Oleora lichenaria*, a rare Moth, reared from larvæ feeding upon an orange-coloured Lichen.

Mr. G. Stevens exhibited the chrysalis of *Macroglossa stellatarum*, the Humming-bird Hawk Moth, and *Agrotis Ashworthii* in the larvæ state, from Wales. The last-named species had been referred to the three different genera *Spalotis*, *Agrotis*, and *Polia*, on account of its peculiar characters in the larvæ state.

Mr. Dutton exhibited a number of rare Lepidoptera recently captured in the Isle of Wight; and Mr. Moore a box of Coleoptera from Southend, including many rare species.

Mr. Westwood again called attention to the new work on German Coleoptera by Dr. Schaum and other continental entomologists, with reference to the views attempted to be carried out in it respecting the specific identity of many insects hitherto regarded as distinct species, although closely allied together. By Dr. Schaum great numbers of these supposed species had been sunk to the rank of local varieties or sub-species, and the President stated that a similar opinion was fast gaining ground amongst botanists.

Mr. Westwood also mentioned the curious discovery of masses of eggs of a species of *Phryganea*, or Caddice Fly, enclosed in patches of gelatinous material upon Yew and other trees, instead of their being deposited under water, as is the usual habit of the insects of this group. These gelatinous masses had been communicated to him from the grounds of Sir Walter Trevelyan, in Northumberland, and although a similar circumstance seems to have been recorded by one of the old writers on Entomology, none of the modern works on the subject had noticed it. The young larvæ, when hatched, bear the gelatinous mass, and are very active. Mr. Walker stated that he had noticed the species of *Limnephilus*, one of the Peryganoideous genera, especially partial to Yew-trees.

A memoir on a new Brazilian Beetle, belonging to the curious genus *Myrmecella*, by Mr. Bates, was read.

A MEETING of the BRITISH POMOLOGICAL SOCIETY was held at the Rooms, 20, Bedford Street, Covent Garden, on Thursday last. Robert Hogg, Esq., Vice-President, in the chair.

A seedling White Grape was exhibited by Mr. Ivery, of Dorking, which attracted considerable attention, as supplying a feature in the list of early hardy Grapes which has hitherto been wanting. The two varieties upon which we mainly depend in this country for outdoor cultivation are the White Sweetwater and the Muscadine. The former is known from its loose bunch and great number of imperfectly developed berries, and the latter by its straight and well-set bunch and rather small berries. This seedling, which was produced by Mr. Ivery, was of a character perfectly distinct from either of these. The bunch is large and heart-shaped,

as large and of the same form as that of the Black Hamburg; the superior secondary stalks being long, give it the appearance as if shouldered, though it is not so; very wide at the upper end and tapering towards the lower. The main stalk and secondaries are very stout and firm. The berries are as large as those of the Black Hamburg, and of a roundish oval shape, like the White Muscat. The skin is white, covered with a delicate bloom, thin, and separating freely from the flesh. Flesh tender, melting, and very juicy, with a flavour superior to the Muscadine, and separating very freely from the seeds, of which there are from two to four. The berry comes away very cleanly from the stalk, without leaving any strings of fibre behind. The bunch exhibited was grown in an ordinary greenhouse along with miscellaneous plants, and had been subjected to the ordinary treatment of such houses, notwithstanding which it was an excellent specimen of Grape-growing. The meeting highly commended it as a valuable acquisition, and worthy of general cultivation. It has been proved to ripen freely out of doors. Its origin is said to have been from seed received from abroad, and raised by a gardener in the neighbourhood of Dorking.

Mr. Thomas F. Rivers, of Sawbridgeworth, produced a bunch of the *Prolific Sweetwater Grape*, which is a decided improvement on the old White Sweetwater. The bunch is of equal dimensions throughout its whole length, and well set, having none of the imperfectly developed berries which are found in the old variety. The berries are large, round, and fleshy, and with an excellent flavour, though, in the specimen produced, being rather immature, there was an agreeable acidity. Mr. Rivers, however, stated that when perfectly ripe the berries assume an amber tinge, and then the flavour is more rich and saccharine.

Two bunches of a new seedling Grape called *Chasselas Précoce* were received from M. Trauson-Forteau, of Orleans. This variety, as grown at Orleans, is said to be from three weeks to a month earlier in the open air than the common Chasselas or White Muscadine. If in this country it should be found to possess the same properties, its value would be duly appreciated. The bunch is long and thickly set; the berries are white, round, and of the size of the Muscadine; and the flavour, though the fruit was necessarily immature to admit of carriage from such a distance, was certainly of such a character as to justify the Society in believing that it is a Grape equal to the old variety.

Mr. Whiting, of The Deepdene, sent admirable specimens of *Kirke's*, *Belgian Blue*, and *Jefferson* Plums, all of which had been grown against a wall. *Kirke's* and *Jefferson* were very richly flavoured; but *Belgian Blue* was not so, and is evidently a variety more adapted for culinary purposes than for dessert; being an excellent bearer as a standard, it is a question whether it is desirable to occupy a wall with it. Mr. Paul, of Cheshunt, and Mr. Rivers, also exhibited specimens of *Kirke's* Plum from standards, which, though not so large in size nor so fine in colour as

Mr. Whiting's, were considered equal to them in flavour. Mr. Paul also produced specimens of *Denyer's Victoria*, *White Magnum Bonum*, which were not sufficiently ripe, and also some excellent examples of the old *Muscle Plum*. Mr. Rivers exhibited specimens of *Guthrie's Apricot Plum*, a very richly-flavoured yellow Plum, profusely mottled on one side with crimson; the *Orange Plum*, a singularly-shaped variety, being very much compressed laterally, which will be best understood when we say it is of the form of the old-fashioned fat-looking watches. It is of good flavour, but not remarkable for any richness, and, therefore, not equal to many other varieties in cultivation. The *Reine Claude d'Oulin* is a green Plum which assumes a yellowish tint as it ripens. It possesses a rich flavour, but is not equal to the Green Gage, with which it is in season.

Mr. Rivers also exhibited specimens of his new *Seedling Pitmaston Nectarine*. This was raised from the old Pitmaston Orange, which it very closely resembles in size, shape, and colour of the fruit, and to which it is equal in point of flavour; but the advantage which this new variety possesses over its parent is in the greater hardiness and vigour of the tree. Mr. Rivers found that in stiff and cold clay soils the old variety was subject to mildew and disease, and that it was with the greatest possible difficulty he could succeed in cultivating it; whereas the seedling grows with the greatest luxuriance, and is perfectly hardy. It must not be understood, however, from these remarks, that the Pitmaston Orange is equally as tender in light and loamy soils, for there it succeeds to perfection.

Mr. Paul furnished a large collection of many different varieties of Apples and Pears, the greater portion of which were not ripe. One Apple, however, deserves particular mention for its large size and beauty, and for the length of time during which it is in use. It is called the *Councillor*. It is of a roundish-ovate shape, with prominent obtuse ribs; skin of a yellow colour, with a blush of red on one side, and the surface covered with a network of russet, similar to the Alfriston. It is a culinary Apple, comes into use after the Manks Codlin, and continues till Christmas. The tree is an abundant bearer; and this season, Mr. Paul stated, while among Apples generally the crop is almost a total failure, this variety is very productive.

From the Royal Gardens, Frogmore, there was received a branch of a new seedling *double-bearing Raspberry*, which fully exhibited its double-bearing character, but which, in the opinion of the Society, did not appear to differ essentially from other double-bearing varieties. One peculiarity, however, was observed in the growth of the plant, the branch exhibited being produced not from a sucker, as is usual in Raspberries, but from the old shoot of the previous year, and from the base of a former shoot, which had been cut back on the principle of the spur-pruning of the Vine. On this subject the Society requested further information.

The following gentlemen were elected members:—

Mr. E. SPARY, The Graperies, Brighton.

Mr. CRAMBE, Gardener to Earl Ducie, Tortworth Park, Gloucestershire.

Mr. MARK, Fruiterer, Oxford Street, London.

FRUIT-TREE PLANTING.

THE autumn is now approaching with rapid strides; and although it is not many weeks since it was deemed expedient to recommend every attention to newly-planted trees, it becomes already a duty, on the part of us cottage gardeners, to direct attention to that revision of the condition of our fruit-trees which must annually recur. For my part, I am, as I have been for years, an advocate of early autumn planting. This is open to the imputation of prejudice from other quarters, and such it may or may not be; but I will exchange the opinion the moment I can get a better.

But here I want to chat about soils for fruits; about preparations necessary; and once more to inquire whether anything more can be done as to the roots of trees in our fitful climate. Whatever the course of the summer may have been in other counties, we cannot boast of it here (Cheshire); and I am obliged to confess to very slender crops of Apples and Pears. The latter, as we all know, is a thing of the highest consideration, inasmuch as a first-rate melting Pear in January and February is not shamed on the dessert-table by the finest Jamaica Pine, or the best Barbarossa Grapes. Apples, of course, are indispensable adjuncts; we may not despise them, but everybody can grow a Ribston Pippin without the aid of science. Let me here observe, then, that the Pears being clearly exonerated from the charge of heavy crops, have "run to wood" most fearfully. I name this as a necessary preliminary to future planting processes.

Talk about manuring of Pears in a trained condition, who dares do it? I was one day chatting with a gentleman who thinks he knows a good deal about gardening, and, for a gentleman, he certainly does. We were looking at a table-trellis of Pears, which had produced, in general, excellent crops, but which this season is not worth notice. The period we were talking over the subject was last September, and then they carried a full crop. I remarked that they had been planted twenty-four years, and had never had a particle of manure, neither had the spade been used amongst them. He marvelled much where they got their food from, and predicted their falling off if not manured. But he should see them this season; shoots in abundance, two feet in length, are scarcely an indication of vegetable decline. I have actually dubbed or clipped them as a hedge, for the labour question has been an awkward one this summer.

I have pointed to these trifles as bearing on the consideration of both depth, extent, and quality in soils; and I cannot imagine a better time in which to bring my case into court; for where unproductive trees are, there, in general, will be the disposition to produce coarse shoots. Now, there are at least two distinct ways of sustaining fruit-trees as to soil; the one shallow soil, of a generous character; the other poor, but deep soils. I speak this, for the present, of Pears, and irrespective of stocks. But here, again, another point for consideration forces itself on our notice. There happens to be as much difference between one Pear and another as betwixt a Cabbage and a Cauliflower; so it may be seen that it is not possible to suit all kinds with the same mode of planting. Indeed, the arguments now adduced are in part, doubtless, one reason for the use of Quince stocks. But whatever may be the case with Pears when bearing heavy crops, when they rest they have a tendency to run to wood, and this extreme tendency should be provided against, or the unfortunate cultivator may pinch away half his time.

Now, the fact is, could gardeners, in general, stop to prune the roots of trees when they deemed it necessary without prejudicing other business, much advantage might accrue from a process of the kind carried out in

a sensible sort of way in the beginning of August: few, however, can spare the time requisite at that period.

In order, then, to provide against such extremes of seasons, I must still advocate cautious proceedings in the planting. The soil should be so prepared as that the trees cannot become suddenly gross under any circumstances; or, if they do, that half-an-hour's operation at the root may accomplish more than hours spent over twig pinching. Here those gentlemen who are ever anticipating hot summers may step in and say, Pray what will become of your platform-trees in the event of a piping-hot summer, or supposing the great comet should appear? My answer must be this:—Yours is the exception; mine the rule. My experience tells me that for one day and hot summer, when even the gross fruit-trees quail, there are nearly half-a-dozen damp or growing ones, in which, according to common complaint, the trees produce lots of "breast-wood" instead of fruit—a most awkward circumstance for the table-decker. However, it is well to observe that, in the event of one of those parching periods, a good gardener will, as coupled with such a system, always have a heap of material to fall back upon, and adapted to the end in view, in the shape of top-dressing. In addition to this, the water-pot may be called into requisition; and more I need not say.

In pursuance of the above considerations, I must still recommend the planting on platforms, only I think that, in cases where people do not intend to resort to surface-dressing, they had better make the soil deeper, only taking care to avoid manorial matters, which, in a majority of cases, are best applied as surface-dressings. For ordinary fruit-trees to undergo a training process, I should say thirty inches in depth, and for common standards to go untrained, and to make full-sized trees, nearly a yard may be allowed, providing the bottom is rendered dry. It might here be fairly asked by persons who have not considered the subject, What are the real differences between this platform mode and ordinary planting? I will explain. Trees planted in the ordinary way have power to range in all directions; those on platforms are, or may be, as circumscribed as though they were in a huge pot. In ordinary planting, trees may form *tap* roots; by the platform mode they cannot; and the check they meet with when coming in contact with the stone, or other impervious material, forces them to produce abundance of fibres near the surface of the soil.

Besides, as to root-pruning, the process is carried out with much less difficulty, and a greater degree of precision. Station-planted trees, on platforms of about six feet square, may be cut at any time up to the platform sides.

It is requisite that the platform bottom be impervious to the roots of the trees, or nearly so. My practice (and I find it all I desire), is to form the platform convex, to place bricks or stones over the surface, as nearly fitting close as possible, and to sweep cinder-ashes over them; these last, falling into every crevice, complete the platform. Let me advise those about to plant not to use old and exhausted tree soil; fruit-trees have a strong aversion to occupying the soil exhausted by former fruit-trees. It may not be sheer exhaustion alone which occasions it. I have little doubt that the presence of what has been deemed excrementitious matter proves noxious to the young and tender roots. I have before stated in *THE COTTAGE GARDENER* that where what is called maiden soil cannot be obtained, it is perfectly easy to resort to the ordinary kitchen-garden soil, which is amply sufficient to use for mixing. This will be found to economise much.

R. ERRINGTON.

DESTROYING THE RED SPIDER BY THE AID OF SULPHUR.

"A SHORT time ago, I read a paper, signed by Mr. Fish, recommending one pound of sulphur and one pound of quick-lime to be boiled one quarter of an hour in a gallon of water, to be poured off fine and bright, and one pint to be used in four gallons of water, and Peach-trees to be syringed four or five times a day with it in order to kill the red spider. I have followed these directions accurately, except that I have only used it three times in three following evenings, that is, once each evening; but the result is, I have destroyed the foliage of a fine-looking young, and also a fine, healthy-looking old Peach-tree. The circumstances are these:—I had planted a rather large house, last January, with nine Peach-trees, seven or eight years old, and the same number of young trained trees. They all grew remarkably well (I enclose a couple of leaves as a sample of the whole house), but three or four had a few red spiders. I kept them tolerably under by hot-water plates, with sulphur on the top; still they returned, but scarcely to affect the leaves; but seeing the paper of Mr. Fish, I thought to get rid of them entirely, and so used it with the result before named. I used no soap. My belief is, that the lime has done the mischief, although one pound seems very little to thirty-two gallons of water, and I am inclined to think the sulphur would have answered the purpose without the lime; still, I am not at all sure the sulphur in this form might not have done mischief. Of course I do not write this for publication, but that you may take steps to prevent further mischief. As soon as I saw the injury, I washed trees well with clean rain-water, but the leaves are falling, and I do not think one will be left in a week from this time. There has been no fire in the house, and the trees had just finished growing, but the wood had scarcely begun to ripen.—A. B.

"P.S.—The decoction had the appearance of fine, bright Madeira wine."

The above communication is just one of those that, of all others, ought to be published. It will teach the importance of carefulness with such mixtures, if it does nothing else. It may also save the trouble of writing and reading many other letters on the same subject. I am not at all insensible to our correspondent's kindness in not wishing his case to be made public, farther than to avert future mischief, and thus letting me quietly out of a difficulty as easily as possible. Such has been too much the case in gardening matters. Many instances occur to my recollection of systems and modes of action recommended by the highest authorities, and perseveringly recommended, when even the authorities themselves had failed. The hinting that they were deceived by first appearances, that there was something of the extreme in nicety and particularity required to command success, which only the very intelligent and experienced could master; the acknowledging even of a doubt, which must in their minds have arrived at a conviction, unless we charitably imagine, that the usual acuteness of their intellect had been blunted in reference to a cherished pet idea or system—any such modes as these were too humbling to their pride, too grating to their vanity.

The matter, instead of sleeping quietly, may have been discussed; practice may have demolished a theoretical idea, and yet the theory be defended as boldly and curtly as ever; and when people get tired of a subject on which all the experience, and such logic as that brings, are on one side, Mr. Theory leaves the field with a defiant air, and appeals to future times. The possibility that he might be wrong cannot for a moment be entertained, far less the, to him, humiliating acknowledgment.

Give even an indirect encouragement to such a system, and how endless would be the disappointments to chronicle! how low would be the position of our professional morality! All are subject to mistakes. It

would be extra true greatness never to fall into an error. It is greatness next in degree manfully to acknowledge the error when seen, and by every means possible endeavour to neutralize its effects. "Though conquered, arguing still," is a practice fit only for the fast and reckless lads who crow over being "game to the last," whatever the cause they espouse.

Had I been the sole cause of "A. B.'s" misfortune, I had no two paths to choose between. Common honesty required that the unfortunate result should be as widely chronicled as what was considered to be, in some measure, a specific for an evil. In the present case, if the result is owing to the sulphur, I think, without any egotism, that "A. B." is chiefly to blame in making a reading of my directions for himself. What I feel I am blameable in is not being more particular and precise in my words and language at page 301, as I suppose that is the place referred to, in answer to a correspondent who could not master the red spider. This want of preciseness may be partly justified by the fact, that for two or three years I have recommended a similar mixture, and have heard good reports of it from others. It was no idea of my own. It will be found stated in a previous volume, on which I cannot just now lay my hands, that I obtained it from a French writer, who used it for the mildew disease on the Vine. On trying it, I was immediately struck with the seeming strength of the liquid, and thought it might be as useful for destroying insects as for subduing mildew. With the exception of mildew, I had come to the conclusion that using sulphur in the dry or natural state, made into paints and washes, was just as efficacious as so much earth or mud. It reached insects only when its fumes were given off by heat, such as when placed on a hot-water pipe, or when a wall or paling was so painted with it that the sun's rays would so heat the parts that the fumes would be given off. These fumes will arrest the progress of mildew, though a high authority states the contrary. The other day I saw some Vineries that had been attacked with the Vine mildew, but it was at once arrested by brushing the flues over with a mixture of sulphur and lime, and keeping them hot for several days. In such a case, however, it is right to give a note of *beuare!* There would be no danger in hot-water pipes, but the flue should not be covered with the sulphur within at least a couple of yards of the furnace, as sulphur ignites and melts at a low temperature, and, wherever it does, farewell to every living twig that is at all green. Mr. Errington and myself have successfully fumigated Vineries and Peacheries by burning sulphur in them, for thoroughly cleansing the houses before shutting them up to force them; but whoever tries the plan must be thoroughly certain of the hard maturity of his wood, as every green, unripened part will be killed to a certainty.

One hint more, the result of an accident last year. Such sulphur-fumigating should not only be done at night, but, if the next day is likely to be sunny, air should be given early. For want of this caution I have had the front of shoots next the sun injured, though the parts behind and shaded were not touched. The burning of sulphur in any house should, therefore, never be done but with consideration. Rightly used, it is a valuable servant; carelessly used, it masters most things with a vengeance.

These desultory remarks are not quite foreign to the matter in hand. Washes could often be used when fumes from a heated surface could not easily be obtained. I had tried many modes for getting the qualities of sulphur to commingle with water, but none that seemed to me so effectual as this French mode of boiling about equal portions of lime and sulphur together. When the first solution is poured off, a similar

quantity of water is added, and the mixture boiled a second time; but the clear liquid thus obtained is not so strong as the first. A gallon bottle will hold materials for many a syringing. I was so convinced of its strength that at first I used and recommended a dram glass, or half a quatern, for three to four gallons of water. For tender things, and when foliage was tender, I would recommend the same quantity still. As the foliage gets older and riper I found it would stand more uninjured, and in such cases I have used a quatern—a gill in Scotland—or a little more for a four-gallon pot of water. The case mentioned at page 301 is an exceptional one. The minutiae of preparation and application have been given so often that they are not repeated. The Peach-house is supposed to be cleared of its fruit, and by that time the leaves would stand more than they would have done a month or two previously. Even in such a case as this, however, the quantity used is not so extreme. The words are "a quatern or a little more, but not more than half a pint"—mutchkin in Scotland—into a watering-pot of about four gallons. Where our friend finds me recommending, as he says, one pint for four gallons of water, perhaps he will be good enough to point out. In this extreme case I have recommended from a fourth to a half only of the quantity he has used my authority for adopting.

Even now, though advocating caution, I am not quite sure that the solution was the sole cause of the leaves dropping from "A. B.'s" Peaches. In the house referred to I lost many leaves of the tree so close to the heating medium, because there, for the sake of the fruit, the spider had been allowed to get more ahead; but had I used clean water forcibly, the result would have been much the same. After a leaf has been thoroughly punctured with this mischief of an insect its powers of vitality are reduced to a minimum, and it may pretty much as well be knocked off as remain. Perhaps the leaves of our correspondent may have been more injured than he imagined. At any rate, he will now see that he has used his solution from two to four times stronger than ever I ventured to recommend. Considering the free-growing, vigorous condition of his trees, prudence would have suggested trying the lesser quantity first. Any one may use what prescription he likes, but it is hardly fair to place the responsibility on another person's shoulders. Casualties often thus happen. A friend of mine terribly injured his plants by fumigating them with sulphur, and it has been a sore point with him ever since. Some years ago I saw five Vines killed to the ground, and Peach-trees almost as bad, though under the care of one of the ablest gardeners of the day, merely by being washed over with one of the common washes in winter, consisting of soft-soap, sulphur, and tobacco. I have known such a solution used often, and without the least bad effect. There must have been something added—strychnine, for instance—or there must have been some peculiar mode of preparation, or the trees must have been in a peculiar state to cause such a calamity. The boiling of this sulphur, lime, and water makes a very different substance than any commingling of them cold would do. I have forgotten to mention, that though the leaves, many of them at least, dropped from the worst affected tree, the solution used, of a strength from a quarter to half a pint to the four gallons of water, did not affect the other trees at all where the red spider had made but little way. A similar solution has had no injurious influence when used on Peach-trees out of doors. I consider such a solution more effectual in keeping down and subduing the enemy than common water, though I am far from insisting that this solution will act like a miracle. If once allowed to get ahead, the destroying the red spider is no easy matter. Next to the direct fumes of the sulphur, which are given off freely

in a temperature from 170° to 180°, and even at a lower temperature when exposed as on a wall to the direct rays of the sun, this solution is the cleanliest and most useful I have met with.

Though our correspondent has suffered nothing from it—having syringed his trees only on three evenings—I regret that I should have used such an indefinite term as “syringed *several* times a day,” not “four or five times a day,” as our correspondent makes it. My chief apology is, that these articles must generally be written on the impulse of the moment, without the time or opportunity to weigh the propriety of each word. All such solutions are best used morning and evening, before the sun has gained strength, or after its decline. Of these two the evening would be best, and in a house when shut up for the night. In such a case as I alluded to, a Peach-house, from which the fruit has been gathered, I would not hesitate to use it once or twice during the day, if the day was a dull, cloudy one; but not if it was sunny, as the more the foliage was kept wet the sooner would the insects be destroyed or flitted. This was the idea on my mind when I used the word “*several*,” but I am well aware of its indefiniteness, for, as our friend has made it to mean *four* or *five* times a day, another may make it a dozen times if it suits his fancy.

In conclusion, for young and tender leaves use less than the quarter of a pint for about four gallons of water. For older and riper foliage, such as Peach-trees out of doors now, use from a quarter to half a pint of the stronger solution, but do not mount up to pints and quarts, and if the dose proves rather too much, lay the blame on my shoulders.

Our correspondent describes its appearance correctly. It is a clear, bright, yellowish fluid, and, when mixed with the water, gives it a whitish appearance. Madeira, or any other wine, of which gardeners in general know but little, would be more pleasant to handle. Let the young gardener, in using it, roll back his shirt sleeves beyond the elbows, and prevent the liquid dropping on his clothes, or a common amount of self-respect and regard for the comforts of others will tell him to avoid ladies' company for an hour or two afterwards.

R. FISH.

NOTES FROM PARIS.

THE 15th of August is observed throughout France as the *fête* of the Emperor, and generally of all persons whose Christian name has not a place among the saints of the calendar. On that occasion there is an extraordinary display of bouquets and flowering plants, as most persons avail themselves of it to present their friends with a floral offering. Several days beforehand, but particularly on the 14th, immense numbers of flowers are brought to Paris, and the dealers are allowed every facility for the display and sale of their goods. As early as five or six o'clock in the morning there are large collections in every street wherever a spare corner is to be found. Where the pavement is not very wide the flowers are arranged along the sides of the shops, or in the spacious doorways of the houses. But the greatest display is to be seen on the Boulevards and along the *quais*, where there is a continual crowd of people during the day; but in every quarter, and at every step, you see people carrying flowers, some with bouquets, others with plants in pots or boxes. Private carriages, omnibuses, and cabs, all have their loads of floral treasures. Porters and messengers of every class do nothing all day but carry flowers. Husbands, fathers, and brothers have one paramount duty to perform that day, the neglect of which cannot be pardoned, that is, to bring home a flower. The purchase of a gown, or a bonnet, or a shawl, or anything else, may be deferred, but not so the purchase of a bouquet or a plant on the 15th. Wretched indeed would that man be who might affect to despise the obligation, or who, from a feeling of false pride, might hesitate himself to carry home

a large Nerium, Fuchsia, or Orange-tree; but I do not believe that any person in Paris could be so unamiable on such an occasion. On the contrary, people seem to feel that the honour is in proportion to the trouble, for hundreds who can well afford to pay for a cab or a messenger, preferring to be their own servants, may be seen patiently toiling homewards with their precious loads; and really some of the Orange-trees and Oleanders in boxes are nothing less.

Of bouquets in particular there is, on such an occasion, an amazing variety of forms, and I could send you a list that would fill several columns of your paper, if it were desirable, or sufficiently interesting. In general, the bouquets are dearer on grand *fête* days than usual, but at this season the largest and best range between three and five francs; but there are some which, being composed of the more choice flowers, or made up with extra pains, fetch about two francs more. A beautiful bouquet is soon picked up without the slightest demur, and on several occasions I have seen gentlemen alight from their carriage, take up the prettiest in the lot, put some money in the flower-girl's hand, and walk off again, without saying a word. Perhaps it was a Russian Prince, or a German Baron, or an English Lord, who could not speak a word of French. Perhaps it was some one accustomed to the presentation of such offerings, and whose long practice had taught him their market value. I should never suppose that it was a bourgeois of St. Germain, for the Parisians are too fond of talking to do anything in this silent way. And now, would not a good many of the bystanders give something to know what Mademoiselle has received? but she is not disposed to afford them that satisfaction. On the contrary, she quietly slips her hand into her pocket, and is immediately attending to another customer with all the *à plomb* of one who knows very well what she is about.

At present there is a plentiful supply of almost every variety. China Asters (called in French *Reine Marguerite*) are especially abundant. These are favourite flowers with the French, and one of the best growers is M. Truffaut, of Versailles. Neriums and Pomegranates also find a ready sale for the decoration of balconies. There are but few Hollyhocks, but a great number of Carnations, Roses, Dahlias, Fuchsias, Crassulas, young Orange-trees, and Myrtles. Although most of the markets are supplied by the gardeners in the immediate vicinity of Paris, a great deal of produce of every description comes in carts a distance of ten or twelve miles twice or thrice a week regularly; but where there is a railway many growers come or send a much greater distance. Here it is the women that take the most active part in the management of the garden and the sale of the produce.

By-the-by, all the gardeners throughout France, will be in jubilee on the 30th, which is the *fête* day of St. Fiacre, their patron saint, whose singular history I noticed in one of my communications of last year. I stated on the authority of the biographer I consulted, that St. Fiacre was the son of a Scotch King, but I have not found the name or title of this royal personage, and it is probable that the parentage of the worthy saint was never very exactly recorded, or considered of much importance. Authorities are agreed, however, that it was either from Scotland or Ireland that he came. One thing is certain, that at the present day his name is revered among the French, and it is allowed that his *fête* is one of the most brilliant of the list.—P. F. KEIR.

THE HORTICULTURAL SOCIETY'S HOUSE IN REGENT STREET.

WE and others were wrong about the sale of this house. It is not sold yet. I called there on my way home from Shrubland Park, to look at some books in the library, and I promised to contradict the report, and also to say that it never was the intention of the present Council to sell the library, which is of far greater importance than the Orchard.—D. BEATON.

ON FRUIT CYLINDERS.

By A. FORSYTH, C.M.H.S., St. Mary's Church, Torquay.

THE culture of hardy fruit-trees and hardy fruit-bearing shrubs is a subject of such importance, that any system of management calculated to render the supply of fruit less precarious than it has hitherto been will be hailed with pleasure.

Almost every locality has its prevailing winds, and as "the wind bloweth where it listeth," it is no easy matter to keep tender blossoms from being damaged by such a variable current.

In the beautiful arrangements of nature, the blossom is wrapped up for months in a scaly bud, hard and dry, allowing the cultivator every facility once a year to dispose of it in any form most suitable to his interest.

In cultivating the Peach, for example, the tree is carefully pruned and trained to a garden-wall, and other less important fruit-bearing plants are either trained to espalier rails, or grown as standards. Still there are attentions paid

to all of them in the way of pruning, &c., so that the fruit-buds may be advantageously placed as regards regularity and shelter.

Many Pear-trees are naturally tall-growing, and pyramidal in shape; such, by different manipulations, are artfully dwarfed and trained into more flat-headed forms, so as to get the blossom-buds, and eventually the fruit, as much as possible under shelter. Were this not done, their profitable cultivation would be impracticable.

The action of the stormy blast or of the sea breeze upon ligneous plants induces a stunted growth and fruitless spray upon the windward side, whereas the lee side produces healthy shoots and blossoms. In the case of evergreens this is particularly remarkable, and not only does one plant shelter another, but one half of the same plant is thus used by nature to shelter the other half. Now, if our principal hardy fruits were produced upon evergreen trees or shrubs,

the tender blossoms would have a mantle of mature leaves to protect them, but unfortunately for us they "come forth like the silvery Almond-flower, that blooms on a leafless bough."

Such being the case, all sorts of appliances are pressed into the service of horticulture in spring to protect the infant fruits—such as glass shades, bunting shades, worsted net, old fishing-net, straw ropes, spruce fir-branches, and the like. The Lancashire Gooseberry-faucier has been known to share even his bed-clothes with the Gooseberry-bush on a frosty night, rather than permit his "*Roaring Lion*" to suffer.

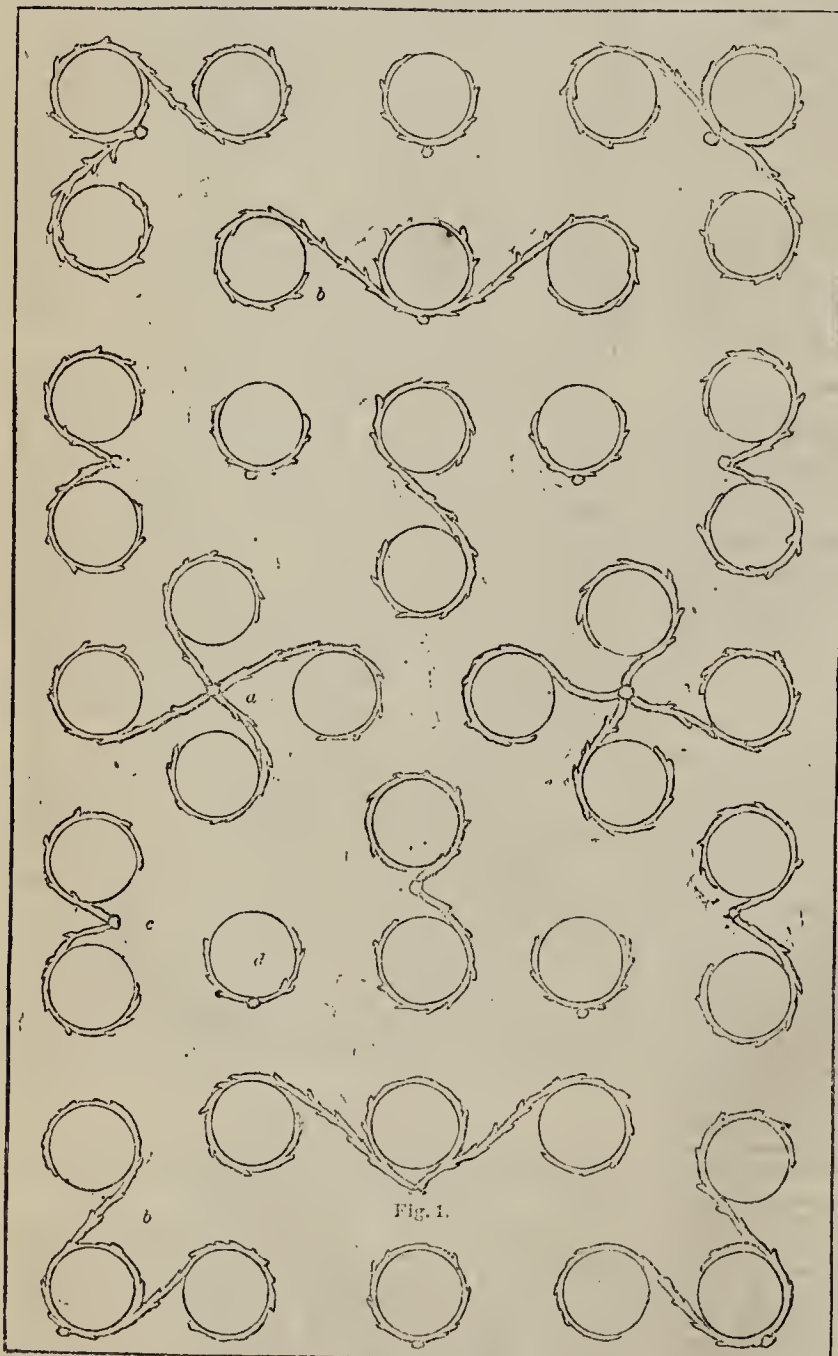
In nurseries the compartments are chequered with evergreen hedges, or, failing that, with Beech, whose leaves remain on the plant so long as to have earned for this tree the adage "that it keeps its old coat until it sees how the new one suits."

The growers of those splendid specimens of Cape Heaths, &c., which we see at exhibitions, use a tent of bunting to lessen the sun's glare and the force of storms, in order to preserve the blossoms and the foliage in the finest possible condition.

The normal form of a standard fruit-tree is either globular or mushroom-shaped, and therefore it faces every point of the compass, and bears fruit all over it, having an aspect East, West, North, and South. Now, although one tree injures another by its shade and other robberies, still it is clear that the individual tree benefits as much by its foliage on the shady or northern side as it does by that on its sunny or southern exposure, and in practice we find the foliage of fruit-trees, and that of many flowering plants, as Camellias, for instance, on a north wall unusually fine.

The distance of one fruit-tree from another on an ordinary garden wall I may take to be fifteen feet. I have, therefore, made the circumference of the fruit cylinders here introduced fifteen feet, and the height five feet.

The ease with which all tangents may be made to run into the circumferential line peculiarly adapts the circular form to this sort of work, and the ease, too, with which a shoot fruitful at the extremities may be made to return upon the barren end of itself, and thereby clothe the bole, is no small recommendation



GROUND PLAN SHOWING A COMPARTMENT IN A GARDEN FILLED WITH FRUIT CYLINDERS.
Scale $\frac{1}{2}$ inch to 10 feet.

Fig. 1, a, shows a tree occupying 4 cylinders or 60 feet of trellis; b, 3 cylinders or 45 feet of trellis; c, 2 cylinders, and d, 1 cylinder.

to this style of trellis, not to mention its unity of character, and consequent strength, having no ends, being a broad-based cylinder or low column. In explanation of this, the straight lines from the bole of a tree easily run into the circular form as in ground plan, Fig. 1, *a*, and the barren part, at the bole end of the shoot, is by the circular trellis covered by the fruitful part, so that, without any doubling back, the whole is covered with foliage and fruit; for everybody knows that fruits are scanty near the bole end of the branch and fruitful at the tips *generally*.

To show the practical value of small cylinders as compared with large ones, let us take one with a circumference of thirty feet instead of fifteen, and in round numbers try it thus:—

$$\begin{aligned}\text{Diameter } 5 \times 5 \times \cdot 7854 &= 19\cdot 635 \\ \text{Diameter } 10 \times 10 \times \cdot 7854 &= 78\cdot 54 \\ [19\cdot 635 \times 4 &= 78\cdot 54.] \end{aligned}$$

Diameter 10 is only twice diameter 5, but area 78·54 is four times area 19·635, showing an economy of space and materials equal to cent. per cent. by using trellises of 5 feet diameter instead of 10.

Here it will be seen that a trellis or cylinder of circumference DOUBLE does not take just double the area, but no more than FOUR times the area to stand upon, and four times the amount of faggots to fill it. I have borrowed the evergreen foliage of the gorse plant, and built a column of it within the circular iron trellis alluded to, in order that the early blossoms of our fruit-trees may not any longer be borne upon naked twigs.

Trellises similar to the foregoing existed in the gardens of the late Sir John Stanley, in Cheshire, in 1837, when I was gardener there, and the only alteration that I have made in my late respected employer's plan is the adding a body to his skeleton trellis.

I have shown in the accompanying plan how different

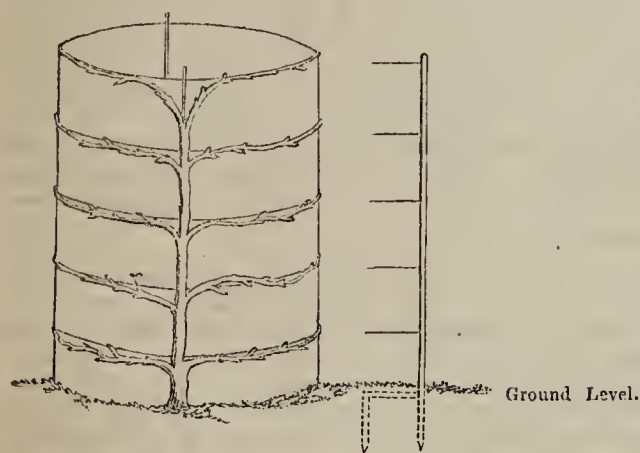


Fig. 2.

ELEVATION OF FRUIT CYLINDER, WITH THE IRON UPRIGHT AND RODS.

Scale $\frac{1}{2}$ inch to 1 foot.

Scale $\frac{1}{2}$ inch to 1 foot.

lengths may be accommodated with one or more cylinders, and I may here state that any moderately young tree now growing against a straight trellis may be wound round one of these cylinders with ease, and without transplanting.

As compared with other appliances for protection, these cylinders, although not handsome, are decidedly not unsightly at first, and, as the gorse begins to get brown and weathered, the young foliage of the tree expands and clothes the whole in fair colours for the summer, so that the gorse is completely thrown into the shade.

I have named gorse as the best material, but heath, or, indeed, any leafy faggots will do, and even those without leaves may have straw added to close the chinks, and thus give the necessary shelter.

The trellis is made of the same materials as ordinary strained wire sheep-fencing, the four uprights being one and a quarter inches by three-eighths of an inch, and five

feet high without the claws, and they have no holes in them like sheep-fencing. The rods are of round iron one quarter of an inch in diameter, and are first made into rings, and attached to the uprights by means of copper wire, the uprights being notched on their outer edges about one-eighth of an inch deep with a round file, to receive the rods; by this arrangement the whole can be untied and shifted as required. The cost at this time (the iron being usually dear) is 10s. each trellis put up and painted.

Every plant upon a plane surface, as a fruit-tree upon a garden wall, is fully exposed to violent action *all at once*: hence we see sun strokes from the supplies being unequal to the demand. Not so in the natural form of the tree, which is a globular, and therefore a solid form, whereas the trained wall-tree is but a skeleton, and that, too, backed by a reflector. The natural tree shades itself considerably, and owes much of its health to the action of leaves labouring in the shade. The present cylindrical form is, therefore, less artificial than the skeleton shape used on walls and espaliers, having all the good properties of the skeleton, and free from many of its defects.

It must be evident from the practical examples just referred to, that, notwithstanding our variable climate, we really do succeed with very little artificial aid, and that little only used for a very short time, in getting fruits and flowers in great perfection. Sometimes the successful fruit-ground is only a sheltered flat at the sea level, as the Carse of Gowrie, and the celebrated cider grounds in this county (Devon). The projecting eaves of a thatched cottage will enable a tree to flower and perfect fruit that elsewhere would not thrive. The Fig wants but a very little to make it a hardy fruit-tree, for we see it at Hedsor Lodge, on the banks of the Thames, fruiting freely as a standard. Certain sheltered spots, again, are famous for Plums, as Dittisham parish, on the Dart, where the noted Dittisham Plum (a very superior Plum, after the fashion of an Orleans), is cultivated for preserving; and again, in Staffordshire, on the Churnet, below Alton, there is another Plum ground, where shelter and dryness appear to be the only good properties of the locality.

It is, therefore, evident that a wholesale system of fruit-growing might be established in well-selected spots with evident advantage to the community, but fruit walls for this purpose could not be built without an unreasonable outlay; besides, they are not moveable, and in the case of a tree failing on a wall, a tree has to be torn up by the roots and put there to replace it, but here you leave the tree in the earth and transplant the sheltering trellis to it.

No other system ever offered to horticulture possessed the means of protection which this does, for there is now only one side of the tree exposed, and any protection laid on the tops of the columns will be so elevated that a person may walk under to gather fruit, &c., and it must be admitted that all fruits want a further protection than that from frost upon their blossoms. Cherries and Plums require netting from birds. Gooseberries and Currants the same. To cultivate Raspberries and Strawberries without protection would only be labour lost, for the birds would take all; even Apples and Pears are pilfered when exposed, and in the case of keeping such as Gooseberries and Currants on the trees till late in the season for dessert, they can now be snugly housed. I need only name one further advantage, and it is this, that the ripening of the wood depends mainly upon the amount of dryness, not only in the air but in the earth, and any one now, by regulating the communication between his tarpaulin overhead, and his drain tiles underground, may lessen foul weather amazingly; and, whatever the farmer may say of the fertilising effects of rain, I should prefer the great bulk of our winter storms to pass over fruit-tree grounds without wetting them. It is the sweltering hollows, coombs, or valleys that yield the best fruits, where the staple is good, and the sun pours in, and the storms blow over; therefore whatever is most convenient should be used for shelter all round, and in the orchard these cylinders will maintain their ground to shelter one another, for they will be a thick wood, and an orchard of this nature can be got up in half the time that one of standard trees could be reared.

This principle is capable of further extension by means of hollow wooden cylinders of one-inch boards on end, and

* Fig. 2. Elevation of a fruit cylinder whose circumference is 15 feet and height 5 feet, showing 5 wires and 5 tiers of fruit-bearing shoots, 1 foot apart.

of circular single brick walls; but, as this paper is already sufficiently long, I will conclude here, as I have had no practical experience of culture in the hollow cylinder, whereas the other is in good working order.—(*Horticultural Society's Journal*.)

SEASONABLE HINTS ON THE CULTURE OF FLORISTS' FLOWERS.

THE FUCHSIA IN POTS.—At this season of the year many of the earlier bloomed plants will become naked of leaves and flowers, and probably infested with red spider. As they are no longer ornamental, they should be at once turned out of the greenhouse and placed out of doors. If they are troubled with the red spider, I have found an effectual cure by laying them down in heavy showers, turning them over once or twice, and when the insects are washed off they may be set upright again, to allow the rain to wash off any dirt from the leaves. The plants will then gradually harden previous to being removed into their winter quarters. They may be kept in any place through that season, providing they are dry and just protected from frost. I have kept them well under a greenhouse stage, by taking the precaution to lay the pots on one side to keep the soil from getting wet. All green, nrispe shoots should be pruned off, for such soft wood is sure to damp off and injure even the well-ripened shoots. The Fuchsia is such a quick grower, that it is not worth while to keep any more than two years old, with the exception, perhaps, of such as have been trained for standards to form weeping plants. These, by judicious pruning, may be kept several years, and will form finer heads every year.

The autumn flowering kinds, such as *F. serratifolia*, *spectabilis*, and *Dominiana*, should now be in full flower. They should be kept then in the greenhouse or conservatory till their bloom is over, and then pruned in moderately, and kept, during the winter, rather dry and from frost till the potting season comes round again.

FUCHSIAS GROWING IN THE BORDERS, out of pots, will now be in great beauty. We often have a frosty night or two early in September, and then mild weather nearly up to Christmas. I have often preserved them in health and beauty by throwing over them, on such early frosty nights, a covering of mats or canvass, thus prolonging the bloom till winter really sets in. Fine standards on the lawn, or in the centre of beds, may be kept through winter in a shed or dry cellar, by taking them with their roots entire, and plunging the roots in dry earth, and when the frosts are over in spring, such preserved plants will be found effective much earlier than young plants.

THE HOLLYHOCK.—The beauty of these plants will now be nearly over. As soon as ever they become shabby they should be cut down, to cause young shoots to spring from the base. If they are carelessly left with their tops on till late in the season, the shoots are often so weak that the whole plant perishes. Of course, if ripe seed is required, the stems must remain till that is effected; but I would advise all amateurs to spend sixpence or a shilling on a packet of seed, rather than injure their choice varieties by allowing the stems to remain till the seeds are ripened. By thus cutting down early, many shoots will spring forth, which will allow the plants to be increased by division. When well furnished with shoots, take them up, and divide them with a strong knife. Each division must have a fair portion of roots, and at least one good shoot at the top. These divisions may be planted out in a bed of light, dry soil in the garden; or, if there are frames or pits on the grounds, they may be potted into as small pots as their roots can be got into, and placed under glass, and shaded till fresh roots are made, and the shoots slightly advanced. Let it, however, be understood, that the very

best sorts only need have this trouble bestowed upon them. Such as are left in the ground undisturbed should have their large leaves trimmed off, and the ground manured and forked over. When very severe frost sets in, a thin covering of light, littery manure will greatly protect them from its evil effects, only be careful to remove it off the foliage as soon as a general thaw takes place.

THE PETUNIA.—Perhaps there is no florist's flower so difficult to manage through autumn and winter as this. In fact, it must be treated as an annual. Old plants are of no use, for they, even if they survive the winter, are so weakly and straggling that, except to obtain cuttings from in spring, they are useless. Hence every good cultivator takes care to raise a good supply of young plants early from cuttings. Some prefer keeping them in the cutting-pots through the winter, and potting them off in the spring. Where a large number is required for bedding purposes, this plan may be the best, because they take up less room; but if intended for pot-culture, they should be potted off singly now, and placed in a frame under glass, giving moderate supplies of water, and shading from hot sunshine till well established. Then place them on a shelf near the glass in a good greenhouse, nipping off the tops occasionally to keep them dwarf and bushy. By such treatment the cultivator may, by two or three repottings early in the spring, form fine, strong plants, which will flower well in the greenhouse, and make quite a blaze with their beautiful flowers.

THE PINK.—Just now is an important season in the culture of this sweet, favourite, pretty flower. The pipings should now all be rooted, and now is the time to prepare the bed for their reception. If the soil is old and exhausted, remove it entirely a foot deep, and replace it with good, fresh, maiden loam three parts, and one part well-decomposed stable-dung. Mix it well together, and raise the bed six inches above the level at the sides, and nine inches in the centre. If the sides and ends are boarded, or edged with long slabs of blue slate, the bed will look much neater and tidy. Plant the pipings out in rows twelve inches apart, and three plants in a place, in this form—

The reason for this is, that the blooms on each three may be protected by one shelter. If possible, each three should all be of one kind. Plant firmly; that is, press the soil to each plant very hard. This will keep them in their place, and, in a great measure, prevent them from being thrown out with the frost. If some decayed tanner's bark can be had, a covering of it two inches thick will be of service.

T. APPLEYBY.

(To be continued.)

LETTUCES, MUSHROOMS, AND POTATOES.

LETTUCES.—Having advised that a sowing of Lettuce should be made the last week in August, I may here observe that another sowing may be made early in September, and even as late as the end of the month, if means can be taken to insure the germination of the seed, which can only be done by covering the bed over with glass, or sowing it on some spot to which artificial heat can be applied, as an old hotbed, or a new slight one made up for the purpose; but, be it remembered, that it is not advised to force the young plants forward; all that is wanted is to force the seed to vegetate, and then preserve the plants from all mishaps; but the slower they grow the better, provided they be enabled to stand the winter, which they do best when their growth in the few weeks previously to hard weather setting in has been sturdy, and not coddled into an artificial condition. With this object in view, it is advisable to

expose them wholly to the sun and air, and to be sure to have the bed in a spot fully open to the whole day's sun. The kinds proper to sow are the *Green Hardy*, *Hammersmith*, *Brown Dutch*, and it might be a *Brown* and *Green Cos*. I have even found a good white cabbage sort stand the winter well; but this is not always the case, and as the plants are destined to be planted on a dry south border, it is prudent not to lose time in getting them planted out whenever they are large enough to handle; and I might as well add here, that ground that has been dug a week or two is better than that newly turned up for securing the young crop from slugs and other enemies after they are planted. And the same may be said of the seed-beds, which, if they be under glass, had better be formed of such dry, light soils as have been exposed some time to the weather; even road dust or other dry earth is often better than the damp unkind working earth that often exists in gardens, which, by the varied multiplicity of their crops, cannot always be dug at the time most necessary to their pulverizing nicely.

MUSHROOMS.—It seems the universal opinion that Mushrooms are not produced out of doors in a natural way in such abundance as they used formerly to be, and it is difficult to account for such a state of things; consequently, our duty would be to endeavour to have them as plentiful in an artificial state as possible, and it now and then happens that a very little trouble suffices to insure that. Therefore the amateur who has any old covered-in shed or building may easily make a bed or two, and there is no doubt but he will succeed in having Mushrooms. The mode of making up beds having been given at page 294, nothing further need be said here, except that in making up beds in any building that may be at hand, ventilation may be disregarded, for this production belonging to the lowest class of vegetation, a close, confined atmosphere seems as congenial to its well-being as the most liberal ventilation is to others. A close cellar answers as well as any place, and the best Mushroom-house I remember to have ever seen was in a sort of cave dug out on a dry hill-side, while I have seen them produced in a coal mine; the condition necessary to their successful culture being a close, uniform temperature, and that suitable medium for growing in which has been dwelt upon elsewhere.

POTATOES.—Doubtless there are different conditions of this useful root, but the general opinion seems to be that the crop of the present year is a light one, but of good quality, and less diseased than on any preceding year since its murrain visited us. And the time is now approaching for taking them up, which, however, ought not to be too hastily done, for disease sometimes makes sad havoc amongst them when thickly stored away before the disease has had its "run." To arrest it is no easy matter by any artificial means, although I firmly believe the fine sunny weather we had the last week in July and beginning of August did arrest it very much; while, at the same time, I feel convinced that its destructive powers are much increased by the tubers being prematurely taken up, and stored away so thickly as to have no chance of hardening to resist decay; so that I would not advise the bulk of the crop to be too hastily taken up, unless the ground be wanted for something else; and, if possible, let the digging up and sorting be performed in fine drying weather, and there is less likelihood of disease following.

J. ROBSON.

VEGETABLE CULTURE AND COOKERY.

It is some time since I last sent you a portion of the subject which I had undertaken to complete; but I doubt not you, along with many of your numerous readers, will be perfectly able to understand my long silence when I say that

the long summer days, and the captivating operations of the garden, had so many attractions as to induce me to leave pen and paper for the candle-light. With your permission, then, I shall be glad to continue my papers on Vegetable Culture and Cookery, beginning where I left off, with the *Red Cabbage*. The cultivation of the plant was given in my last paper; and I shall now only furnish examples of the uses to which Red Cabbage is applicable.

TO PICKLE RED CABBAGE.—We have tried several ways, some of which instructed us to pour on the vinegar hot, which is a great mistake, as it entirely destroys the colour. The best practice we have found is, first take off the large outside leaves, then cut the Cabbage in quarters, taking out the stalk; shred the whole into a colander, and sprinkle with salt, in which let them remain for about twenty-four hours, but not longer; drain them dry, put them into a jar, and pour over them the following pickle, which should be made in readiness:—To each quart of vinegar put an ounce of ground black pepper, half an ounce of pounded ginger, some salt and horse-radish cut in slices, and a few capsi-cums or Cayenne according to taste. Put all these into a jar stopped close, and let them steep three days on a trivet by the side of the fire, and when cold strain the liquor through a cloth, and pour on the Cabbage.

TO STEW RED CABBAGE.—Strip off the outer leaves, wash the Cabbage, and quarter it. Take out all the stalk, and cut the Cabbage into fine shreds. Slice some cold ham as thin as possible, and put it into a stew-pan alternately with layers of shred Cabbage, having first put some bits of fresh butter in the bottom of the pan. Add half a pint of boiling water; cover the pan closely, and let it stew for three hours, till the Cabbage is very tender and the liquor all wasted. Should it be found to be dry and in danger of burning, add a little more boiling water. When done, press and drain it through a colander, and serve it; the Cabbage heaped up in the middle of the dish, and the ham round it. The colour may be improved by adding a slice or two of beet-root, and the flavour by a table-spoonful of vinegar.

RED CABBAGE LARDED.—Take a large firm Cabbage, parboil it, and remove the stalk; add some gravy and fat, pepper and salt. Lard the Cabbage with large pieces of bacon, and tie slices round it; put it in a stew-pan, the place of the stalk uppermost, with a little butter in it. Let it stew three hours over a gentle fire; take it off and skim the sauce; reduce it, pour it over the Cabbage, and serve.

RED CABBAGE MARINADED.—Take a large Cabbage, remove the under part of the stalk and outer leaves, and cut it in quarters. Then cut the quarters in shreds like vermicelli, beginning at the head and finishing at the stalk. Parboil the Cabbage ten minutes in boiling water salted; drain it, and put it into a large dish; season it, and pour over it an equal quantity of vinegar and water; leave the Cabbage three hours at most, then squeeze it dry. Put a large piece of butter into a stew-pan, add the Cabbage, moisten it with gravy or cullis, and stew it very gently.—

ROGER ASHPOLE.

TREBIANA GRAPE.

Your correspondent "O. M.," at page 409, has jumped into a wrong conclusion. He says that I have been writing about a "Black Champion Grape," which I said was better than the *Hamburgh*; but I never heard of such a Grape till I read his article!

I can give him the history of the *Trebiana* Grape, for I first sent it into the world with a very good character. It is one out of forty-six kinds of Grapes which I "proved" in a house on purpose from 1830 to 1836. The late Earl Powis introduced it at Walcot, from the south of Spain, about the year 1825 or 1826. I saw it in fruit there two or three years running, under Mr. Forbes' care, from whom I had eyes of it. I sent it all over the country, and to Mr. Mearns, at Welbeck, among the rest. Mr. Tillery found it there with my name to it, as he once said in some notes about Grapes which I read from his pen. Welbeck is the only place that I know of now where this is to be had true, unless the Caledonian Horticultural Society kept it; but they were all at sixes and sevens at the Experimental of Inverleith when I sent it there, and I never heard anything from them about it. As far as I know there are very few

gardeners indeed who can or could manage the *Trebbiana* and the true *Tokay* Grape so as to bring them up to table as good as Muscats, but without the Muscat flavour.—D. BEATON.

QUERIES AND ANSWERS.

GARDENING.

STAND FOR EXHIBITING CUT VERBENAS.—CUT ROSES.

"Would you oblige by informing me, in your next number, what is the best kind of stand for exhibiting Verbenas in, and how cut Roses ought to be shown?—A SUBSCRIBER OF MORE THAN A TWELVEMONTH."

[We suppose by *stand* you mean to exhibit *cut* flowers of Verbena. The size of it depends upon the number of blooms exhibited. For a stand of twenty-four dissimilar blooms have a deal box made as follows:—Twenty inches long, twelve inches wide, and five inches deep; the lid made to lift off; a sheet of zinc fitted inside resting upon a rim; have four rows of six holes each cut in the zinc plates, and under each hole have a zinc tube soldered to the plate to hold water. In these bottles place the blooms, then fit on the lid, and they will travel any reasonable distance safe and fresh. *Cut Roses* ought to be shown in stands of not less than twenty-four varieties. The stands may be formed similarly to the one above, only half as large again. They should be shown singly, with one bud and a leaf or two attached. These will give the visitors a more correct idea of each variety than if they were, as they often are, shown in threes. Smaller stands may be exhibited, or, in other words, prizes offered for them; but these prizes ought to be given to cottagers only. There is such an immense number of excellent Roses fit for exhibition, that societies should never offer prizes for less than twenty-four varieties to general growers. At the Regent's Park Shows they have, in their schedule, prizes offered for fifty varieties, which are always taken, though chiefly by nurserymen.]

HAUTOBOIS STRAWBERRY.—CARNATION PIPINGS. —MELON PLANTS NOT FRUITFUL.

"Can you give me any directions about the growth of the Hautbois Strawberry? I used to grow it twenty years ago abundantly, but I then observed that some plants were always barren, which I am told is the nature of the Hautbois. Of late years, in a different situation and soil altogether, they have every one been barren every year. A few words of explanation would be acceptable.

"Ought hand-glasses with Carnation pipings under them to be shaded from the sun entirely or in part?

"I have three Melon plants. The first grew and flowered, and set seven or eight fruits, which all stood a considerable time, but only one swelled off, and that one is rather a large Melon. Could any plan have caused two or three of the others to swell? No. 2 was planted somewhat later, and behaved much in the same way. No. 3 was planted later still in the same frame as No. 1; and though it made plenty of growth, has never shown fruit till now, August 21st. The soil I used is, as nearly as I can judge, in accordance with advice given in one of your late numbers.

"One of my Tomato plants has fruit the shape of a plum, not fluted or divided like the usual fruit. Is this unusual? I saw the berry of the *Solanum dulcamara* to-day, and it reminds me—in miniature, of course—of this plant of Tomatoes. Out of twenty plants raised from seed, it is the only one with such fruit, and I never saw one before.—RUSTICUS A. B."

[1. You should procure the *fertilized* Hautbois, which generally bears well, and is now common enough; failing that, you should take runners only off those plants that have borne fruit. A few will likely come barren even then, but they are useful in scattering their fertilizing farina over the others. 2. Carnation pipings should be shaded from the sun, but the shade removed as soon as the rays strike them so obliquely as not to injure them; then, also, they should be damped and shut close; and then, in an hour or so af-

terwards, a little air given, and left on for the night, and removed before the sun strikes the glass in the morning. 3. Provided all was right with the Melon plants, if one fruit was seen so prominently to take the lead, by removing that you might have secured four or five good fruit. Melons will not bear in succession, if at all large sorts. The number of fruit you require must start in a race pretty fairly together. No. 2. Very likely from the same cause. No. 3. Unless you have good command of heat they will have but little flavour. A limited supply of soil, though rather deep, and oldish seed, are the best securities for free setting. We have pulled off many a promising single fruit, because we saw he would cheat his smaller neighbours. 4. There are great varieties in the colour and shape of the Tomatoes. Are the leaves of the plant like the rest? If not, may not the plant be the Purple Egg-plant?]

THRIPS ON DAHLIAS.

"Can you inform me whether there is any remedy for the Thrips on Dahlias?—J. B."

[When we have had the Thrips on Dahlia flowers it has generally been the consequence of dryness in the air and dryness at the roots combined. The mode we adopted to mitigate and get rid of the evil was to take away all the worst afflicted flowers and the Thrips with them; to remove some of the larger leaves, and thus lessen the evaporating surface; to water and mulch the roots; to syringe the plant well over, and especially the opening buds, with water holding a little tobacco liquor in solution; and then, for several evenings, to syringe them well with clean water. This Thrips is easier killed or destroyed than his neighbours that infest Cucumbers, &c. By such means we have managed to keep Dahlias pretty free of the pest. Perhaps some readers, or our coadjutors, may know a better plan, and we, as well as J. B. (to whom we are indebted), would be glad of the information. We have seen no Thrips on the Dahlia this season as yet.]

PIT FOR WINTERING FLOWERS.

"Being very fond of flowers, and, consequently, desirous of preserving them through the winter, and also of raising cuttings, &c., I think of constructing a "pit," but being rather short of room, and being also a working man (not practically acquainted with such things), economy both of space and expense becomes essentially requisite. The space at my command is about twelve feet long by five wide, and is situated close to the southern end of my cottage. I wish it to have just bottom-heat enough to serve the above purposes in winter, and I wish for it to serve as a greenhouse in the summer.—CHAS. GEE, *Miner*."

[We should advise the following, supposing that you mean a shallow pit:—Raise the bottom of it at least six inches above the surrounding soil; make the south end of your house the back of your pit; and, say at four feet from your floor, fix against it a strong coping-board, to receive your rafters and sashes. Drive six strong posts in front, two feet above the floor level, to receive a strong board as a front wall-plate. Put one post, also, at the middle of each end. Build your sloping end walls and the front one with turves fourteen inches wide, and as firm as possible. When finished, let the outside be sloped from top to bottom, leaving the top about ten inches wide, and the bottom fourteen inches. Spread tar over this slope, and outwards from it, and daub it over with rough gravel, and all the rain from your sashes will pass away from your walls, and the turves will be kept dry inside. A thinner wall might be made of double boarding, and the space between filled with sawdust. If you want neatness, put up brick walls, but they will not answer better than turf. In such a place you may propagate most things you want before the end of August without any bottom-heat. After that, many things would be the better for a foot of sweet dung, covered with a foot of earth or ashes. In winter avoid bottom-heat from fermenting matter as you would poison. If you can get any heat from a fireplace, all well; if not, depend upon careful covering to exclude frost. Let us know if this meets your case.]

A MECHANIC'S DIFFICULTIES IN GARDENING.

"I am a working master tradesman that is very fond of flowers. I have a small garden at the back of my house, and I have also a small three-light greenhouse, which I built entirely myself, at odd times, about three years ago now; and through the medium of your valuable paper, and with your permission, I want to ask you a few little questions of great interest to me, but which your great experience in all matters of horticulture, &c., will solve for me.

"1. I have a shed over my shop-front in the street, about ten feet long by two feet wide, with a direct south exposure. I have tried to grow a few showy plants there, such as Scarlet Geraniums, &c., but it has been too hot and scorching for them; they never did well. I have a small, common, Monthly Rose now on one side in a tub a little larger than a bushel, which seems to do a little. Now, I have been recommended to put another Rose the other side. I have a White Cluster Perpetual, or, as some call it, the Evergreen Rose, which I have thought to put there; but I want to get a few Evergreens, so as to look well in the winter. I want you to recommend me what to have. There is a high gable end over the shed I wish to cover if I can. I saw a Magnolia the other day; it struck me what a noble plant it was, and how well such a thing would look on my shed. I should like to know if it is possible I might grow one there in a large tub, say two or three bushels; and if I could propagate one myself by grafting, or budding, or how? And I may say that I am going to have a sign-board, about two feet high, the whole length of the shed, some eighteen inches from the wall of the house, so that the surface, mould, roots, &c., will not be so much affected and scorched by the heat as now.

"The second question I have to ask is, What is the best thing to destroy the maggot-like little things that attack my Rose-trees in the spring? They get into the tender tops and eat out the centre, which makes the tree barren, and to look extremely shabby. I have even had trees killed by them. I should like to know if there are any means of getting rid of them besides frequently looking over the shoots and destroying them, which is a tedious and long job.

"The third is, that I have a very nice Black Hamburgh Grape Vine in my little greenhouse, in an excellent healthy state; but I can never get any large, long, heavy bunches off it as some people can. A gentleman very kindly raised it for me from an eye in his hothouse about five years ago. The third year it had fifty bunches on it; last year and this year it has had about twelve. I cut the last summer wood off close to the old leader this spring, which I have since found was wrong. Perhaps that might have had an effect on the fruit, but I have made six excellent new canes from the principal lateral leader; but I should like to know the cause of its not bearing more fruit and heavier bunches.

"The last is, if plants of one genus can be budded or grafted on plants of another—if the Wistaria can be budded on a Laburnum, &c.—H. L."

[You are just one of the subscribers we are most anxious to oblige, and we will do our best, so far as we understand your case. A shed ten feet long by two feet wide seems more of a ledge than a shed. We are surprised Scarlet Geraniums did not answer. We presume they were in pots. Place them in boxes; and, as far as possible, on Mr. Beaton's Harry Moor's plan, and we will guarantee masses of flowers. Roses generally dislike the smoke of towns. Your partial success is owing to the plant being in a tub, which kept its roots cool. Better try another since one has done so well; but in such a place Scarlet Geraniums would be in their glory in summer. Only fancy how nice some good-sized boxes would look with an edging of the white Ivy-leaved Geranium dangling over them. Many other combinations might be tried. The smoke would be the only thing against your Magnolia; and even if you got a good plant of *Grandiflora Exoniensis* it would be a long time in getting over the gable end of the roof. Ivy would be more common, and require less care; but some of the Variegated kinds are pretty, and would soon mount as high as you liked. The best evergreens for such a place are Aucubas and Boxes, and these should be in tubs. In very severe weather in winter the surface soil should be covered with moss, and hay-bands placed round the boxes. In the

case of a Magnolia more care would be requisite to keep extreme frost from the roots.

2. Your sign-board will benefit your plants in summer; but it will be against them in April and May, as the soil will not be so well heated. Grown in boxes or tubs, the plants would thank you nothing for it at any time. It will be a protection to the roots in winter if the boxes are placed near it, and might be made to conceal the whole of the pots, boxes, &c., from the street, letting the flowers only be seen over it.

3. You must examine the cut ends of shoots for the maggot. Wash the plant in winter with a paint of sulphur, clay, and enough of tobacco-water to make thin paint.

4. You had better have let well alone with the Vine. Fifty bunches were too many for the third year. If you want fine bunches you must be satisfied with few. Your new rods will give you a fresh start, but do not overdo the thing. As a general rule, when you want size and quality, you must sacrifice quantity. There is no unaccountable secret in this matter. It holds true in Vines, Peaches, and Cabbages, and everything else. A gentleman complained that his bunches of grapes were small; he cared nothing about number—he wanted a few good ones. The gardener thinned his wood and disbudded, so that the strength of the Vines was thrown into about a fourth of the usual number of bunches, and much he was praised when the first went to table; but dire was the dismay when the good gentleman was informed that, instead of his bunch every evening, he must now be content with one a week, if he expected them to be so long in use as usual. In a word, then, fifty bunches the third year were more than double too many if the Vines were to have justice. If you take as many from the six canes next year, it will probably be enough, but we scarcely comprehend your description.

5. Plants of the same natural section will generally bud and graft on each other. It would be of little use in the case of the Wistaria, as it propagates so freely from cuttings and layers. Practice only can demonstrate how far this can go with utility. For instance, we have grafted Apples on Pears, and *vice versa*, but they seldom lived long. Now, a word for ourselves. Send fewer inquiries at a time, though we shall always give all the attention possible.]

GLASS OF A FERNERY.

"I am thinking of adding three long sashes to my present Fern-house. It is roofed with common glass, and has a thick canvass blind, which is let down for the slightest sunshine before two in the afternoon. I hear that some Fern-growers near London have, in accordance with the new principles of Actonism, roofed their Fern-houses with ruby glass. I should feel much obliged for any information you can give me on the advantages that have been proved from the use of coloured glass (red, blue, or yellow), for the roof of stoves or greenhouses, and, also, what colour you would recommend me to try for my Ferns. I am anxious to do away with the outside canvass blinds, and believe that the patent-rolled, rough plate will not prevent the scorching of the Adiantums, though I think of putting it, for a foot length, at the lowest part of the sashes, for the advantage of such flowers on the front shelf as like a moist, close atmosphere.—S. H. G., *Liverpool*."

[Our experience of coloured glass, and our observations of the same, are too limited and inconclusive to enable us to give an opinion on the subject. Thick-rolled, and especially fluted plate, would, we think, be sufficient, if the Ferns were a good distance from the glass. If not opaque enough, such plate, and even common sheet, may be made opaque enough by painting it over with melted size holding a very little whiting in the solution. If the glass is so painted *inside* it will be best to use nothing but the size, and place it thicker. Size alone makes a good shade if daubed on with a brush neatly, instead of drawn along, and if there is just a perceptible quantity of whiting in it, it resembles rough ground glass.]

DELPHINIUM SINENSE, PHLOX DRUMMONDI,
AND LOBELIA RAMOSA.

"Will you be so kind as to inform me whether *Delphinium Sinense*, raised this year from seed, and now in flower, may be left with safety in the bed through the winter? Our soil is very heavy. Are *Phlox Drummondii* and *Lobelia racemosa* really annuals? Will they not grow from cuttings?—JOHN THOMAS."

[It is not safe to leave the roots of this *Delphinium* in your wet soil during the winter. The *Phlox* and the *Lobelia* are decidedly annuals, but the *Phlox* may be continued by cuttings; but that *Lobelia* seeds freely, and does not come well from cuttings.]

COST OF ERECTING AN ORCHARD-HOUSE.

"I beg to call your attention to a statement made in THE COTTAGE GARDENER of the 12th ult. with respect to the building of an Orchard-house, viz., 'The house is fifty feet long . . . The entire cost of erecting, painting, and glazing this house was £30.'"

"There must be some mistake here, as the house described in that article could not be built for less than £70, more than double the amount stated. It is with a view to save persons being misled with regard to the prices of glass structures that I forward the following calculations of the house in question for insertion, should you think it proper."

"It is stated in the article that the house is glazed with 24 oz. glass. I think it must mean 21 oz. or 26 oz., as I never heard of such a quality as 24 oz. glass. However, as there can be nothing better than 21 oz. best 4ths British sheet-glass for glass houses, it is calculated for in the following:—

	£	s.	d.
8 ft. 6 in. of front, and 2 ft. 6 in. of hack = 11 ft. length of bar or rafter, by 50 ft. length of house = 550 feet superficial of glass, at 7d. . .	16	0	10
Glass from the level of the front plate at ends, 50 feet, at 7d.	1	9	2
56 bars in length of house, 11 feet long = 616 feet prepared sash-bar, at 30s. per 100 feet . .	9	4	0
For ends and waste, say 50 feet	0	15	0
For ventilation there should be at least 12 ventilating sashes or lights, each at least 2 ft. 6 in. square; making of which, with fittings, would cost (exclusive of glass)	10	0	0
The ridge-plate, with capping, would cost 1s. per foot run	2	10	0
The back and front wrought gutter-plates, lined with 5 lb sheet-lead, at 1s. 3d. per foot run . .	6	5	0
15 oak posts for supporting front and end plates, supposing them to be about 4 feet apart, at 2s. 6d. each.	1	17	6
84 feet superficial louvre boarding for front and ends, at 6d. per foot	2	2	0
2 sash doors	2	10	0
Painting the whole, four coats, inside and out . .	10	0	0
Glazing, including cutting and putty, at 1d. per foot superficial	2	11	4
Carpenter's time fixing, 20 days, at 5s. 6d. per day	5	10	0
	70	14	10
2½ per cent. for breakage and other contingencies . .	1	15	2

£72 10 0

"The foregoing estimate is made on the lowest possible prices of the articles requisite for glass-house buildings, all of which should be of the best description. The woodwork should be of the best Baltic deal, otherwise the house in a few years would fall to pieces."

"This house is of the cheapest description of glass-house building, and likely to prove serviceable, although others may be built much more so at a little larger outlay, which, I believe, would prove the cheapest in the long run.—HORT. ARCHT."

[You are quite right as to the weight of the glass, but quite wrong as to the cost of erecting the Orchard-house described at p. 341; for we paid ourselves every item that that house cost, and it was under £30. Moreover, in the immediate neighbourhood of that house, another one, 100

feet long, has been erected recently, and we are assured by its owner that that house, with 16 oz. glass, has cost him only £30. It is quite true that the professional charges are as "Hort. Archt." states, but in both the instances above quoted the owners were their own architects; they bought the glass ready cut of an uniform size; the woodwork ready cut and planed at the steam saw-mills; the putty ready made at per firkin; and they contracted with a country carpenter and country glazier to put them up. The painting was done by a common workman. In round numbers, the fractions in every instance being given against the purchaser, by turning the odd pence into a shilling, the cost for the fifty feet Orchard-house was as follows:—

	£	s.	d.
Woodwork	11	0	0
Glass and putty	5	19	0
Carpenter	7	5	0
Glazier	3	0	0
Paint (two coats)	1	15	0
	28	19	0

The glass of 21 ozs. per foot was bought at 17s. per 100 feet, and about 650 feet were used. The carpenter found locks and hinges, and nothing is charged for painting, because it may be done at odd times by any labourer. There was no louvre boarding; the base in front is banked and turfed.]

TO CORRESPONDENTS.

DISEASED KENNEDYA (H. N. E.).—It is fearfully covered with the scale insect, *Coccus testudo*. Filthiness in houses, whether it be the greenhouse, stove, or dwelling-place, is the forerunner of disease, both among plants and animals too. Now, the simplest remedy is this, although many other things might be mentioned as remedies—to cleanse and kill the insects which such plants are infested with. Hot water alone, if applied with the brush and the common syringe, will soon kill all the scale insects, &c., upon such plants. The water should be used at 140° to 148° of heat. Take such plants out of the house one by one, and place them upon a clean floor, such as a few boards laid down for the purpose, either out in the open air or in a shed. Then tie a piece of canvass cloth cut round and large enough for the largest pot, which canvass must be slit up to the centre, in order to clasp the stem of the plant, whilst the edge of the canvass is tied tightly round the rim of the pot, first tucking in a quantity of moss or the like over the earth of the pot, keeping the whole a little convex, to prevent the hot water getting to the roots. This being done, then lay the plant down on its side, and syringe it well with the pure hot water. Turn the plant over and over again, so as to scald all the insects. It may be necessary to look over some plants again with a small brush, to find out some in the small crevices, and after the lapse of a few days or a week, it may be requisite to give some plants a second dose with the syringe. This and a clean house will keep away all scale. Your *Kennedya* must have been totally neglected, or the scale would not have so overwhelmed it.]

HEATING BY GAS (An Ignoramus).—There is no better way of applying the heat than by a circular ring of jets of flame playing against the flat bottom of a boiler. You should not have the holes so small as to be put out by altering the pressure. The number of jets are not enough, and the boiler has not surface enough exposed to them, if the pipes ever freeze. The ring of jets and the boiler ought to be enclosed in a kind of stove, not only to retain the heat, but, when the door of the stove is shut, to prevent the flame being moved about by currents of air. We are obliged by your suggestion about the lists of new plants and seeds, and we do give notice of everything good that we know of—novelty and excellence are certainly not synonymous. Repeatedly have we given lists of plants for greenhouses, and every month we give a list of plants which may be in bloom in them. Look at page 383 of our 15th volume, "Succession of Flowers under Glass." In our 10th volume is a series of papers by Mr. Fish upon stocking economically a greenhouse. You will find lists of hedging-plants in all our volumes, and you will there find our repeated declarations that we never plant a flower-garden we have not seen. If you tell us how it is planted, we shall have great pleasure in pointing out any errors in the arrangement of colours, &c.

NAMES OF PLANTS (J. Kirkite).—The procumbent plant is the dwarf Mallow, *Malva rotundifolia*; the yellow flower common Celandine, *Chelidonium majus*. We cannot attempt to name plants from such descriptions as you sent. (F. W. S.).—Lancashire Bog-Asphodel, *Narthecium ossifragum*. (W. A. D.).—When you send us Plums to be named, always inclose a portion of the young wood of each, as it aids us in the identification. Nos. 1 and 2 were gone to a pulp. No. 3 is *Kirke's Plum*.

SILVER CUPS.—Messrs. Mapplebeck and Lowe, of Birmingham, have just completed a commission from the Sowerby Pig and Poultry Association, for the production of seven silver Cups, to be given as premiums to the most meritorious competitors at the ensuing Exhibition of the Society. The articles are tasteful in design, appropriate in decoration, and of excellent workmanship. Four of the number, which will be allotted to the best pens respectively of Spanish, Dorking, or Cochins, Game, and Hamburg Fowls, are of the value of £4 each. On one side, upon a raised shield, is a group of poultry and accessories; and on the other, a space surrounded by agricultural emblems, in which the particulars of the award will be inscribed. In the remaining three, appropriated to the pig stock, figures of those animals take the place of the birds; and one of them, subscribed for by the innkeepers, is of the value of £5.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

DORCHESTER. Sept. 17th and 18th. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close Sept. 1st.
 ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. *Secs.*, G. E. Attwood, and W. A. Warwick.
 GLOUCESTERSHIRE. Nov. 26th and 27th. *Sec.*, E. Trinder, Esq., Cirencester. Entries close Nov. 1st.
 LONDON. Thursday, October 16.
 NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. *Sec.*, Richard Hawksley, jun. Entries close November 19th.
 NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 13, 14, and 15. *Hon. Sec.* Frank Bottom. *Secretary to the Canary Department*, Jno. Hetherington, jun., Sneinton.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

DUBBING OR TRIMMING AND MARKING GAME FOWLS.

Now that the period has arrived when the juveniles of this class are, or ought to be, fit to draft, trim, and mark, it may not be esteemed out of season to say a few words concerning an operation usually undergone by this breed of fowl, especially as it is essential for show purposes to be somewhat particular in giving as good a figure as possible to the most prominent part of the bird. It shall not be my province to offer any remarks on the humanity or expediency of this procedure, but I shall run over laconically the mode of operation, the essentials, and the general things to be avoided.

The comb of the Game Cock should be an upright, thin, round, well-serrated one, not very tall; rather let it be so than short and thick or piked behind. There is some little uncertainty in these essentials, as also the period when the dubbing should be performed; both, in some degree, are influenced by the health, strength, age, and growth of the birds, as well as breed. Reds, greys, blues, blacks, and piles, have combs somewhat different; and only let a Malay have got into your strain at some early period, farewell to all certainty on this head; his progeny will entail lots of trouble and polishing to conceal the foul blot.

The operation to be performed is the removal of the comb and wattles, whereby the former assumes the appearance of a slightly-raised excrescence, sloping on either side from base to summit, in form similar to a breastplate; the latter are "non sunt inventa," and have become an integral part of the face and jaw. The mode of action is to cut off the comb with a knife or scissors thus:—An assistant secures the bird by placing it under his arm, securing the legs with the same hand, and holding the neck and head straight out and steady in the position the operator requires. If a knife is the instrument used it is passed from before to behind whilst holding the comb steadily with the other hand, and requires much ready manipulation to make a sure and good job of it. The wattles, if cut off by the same process, is a more tedious operation. There is much nonsense talked of about the outer and inner skins: "the outer one must be cut through, and the inner one scooped out like a ven inclosed in a peculiar sack." All this is stuff, and from experience I have no difficulty in dubbing birds, and am satisfied that the knife is an unfit instrument to use, and in the hands of a beginner a sure precursor of ruin to the patient's beauty; and the reason is this—at the juncture of the upper bill with the skull there is an indentation, so that often, do what one will, the knife has a great tendency, and will, if the knife be kept as it ought to be, moderately close to the upper bill, to run down into this hollow, and as the blood obscures your work, and on you cut. I do not envy your feelings at the sequel, and a great hash is made of the wattles too; besides, I have often known a tyro cut a comb so closely as to expose the skull. All this is from using an agent which is difficult of management except by the experienced.

The simplest plan is to select a good, heavy, straight, sharp pair of scissors, and if one of the blades be somewhat thick so much the better, as it prevents too close shaving. Well straighten the comb, place the same between the blades of the apparatus front foremost, keep

your eye along the side of the comb to see the distance or height is all right, and, with a powerful and steady closing of the blades, off goes the member, leaving a straight rib only, and no pit; and as there generally is a little loose bit of comb near the nostrils and at some other particular spot, have near you a smaller pair of scissors, and with them just remove it. As to the wattles, with the same instrument cut them off closely. The edges will gape; never mind, remove them *in toto*. I must not go further into this matter just now, and will leave the marking and other essentials for another communication.—W. H., *Exeter*.

LONGEVITY OF HENS.

I HAVE recently met with two instances, which I can, if necessary, substantiate by proof that no one can doubt.

A hen, between twenty-two and twenty-three years old, is now in good plumage and condition, and lays an average number of eggs. She has reared a brood of chickens within the last twelve months, and now wants to sit, but her wish is not gratified. The number of eggs and chickens produced by this bird, and estimated at a fair market value, would startle any one.

In the second case the hen is eighteen years old, and lays well; she has been allowed to sit, but lacking, probably, the necessary warmth, she has not hatched the last two sittings entrusted to her. Her owner, with creditable kindness, gave her some chickens hatched by another hen; she was delighted with them, and reared them all.—J. B.

BRAHMA POOTRAS.

THE writer of this never entertained but one opinion relative to these birds. When pure, he has always thought them to be merely a variety of the Shanghai, or Cochin-China; and that when they have Pea combs, and one or two minor variations, that then they have a taint of Malay blood in them. That they are merely a variety of the Shanghai is sustained by the fact that from Brahma Pootras Lord de Blaquiere bred Black Shanghaes!

We write this in answer to ERGO, and we add the following as confirming our opinion.

Mr. Burnham, in his "History of the Hen Fever," makes the following statement:—

"When, in 1850 and '51, the 'Bother'ems' begun to be brought into notice, I saw at once that, although this was bubble number two, it ought to have been number one decidedly.

"Never was a grosser hum promulgated than this was, from beginning to end, even in the notorious hum of the hen-trade. There was absolutely nothing whatever in it, about it, or connected with it, that possessed the first shade of substance to recommend it, saving its name. And this could not have saved it, but from the fact that nobody (not even the originator of the unpronounceable cognomen himself) was ever able to write or spell it twice in the same manner.

"The variety of fowl itself was the *Grey Chittagong*, to which allusion has already been made, and the first samples of which I obtained from 'Asa Rugg' (Dr. Kerr), of Philadelphia, in 1850. Of this no one now entertains a doubt. They were the identical fowl all over,—size, plumage, and characteristics.

"But my friend the Doctor wanted to put forth something that would take better than his 'Plymouth Rocks;' and so he consulted me as to a name for a brace of grey fowls I saw in his yard. I always objected to the multiplying of titles; but he insisted, and finally entered them at our Fitchburg Depot Show as 'Burrampooters,' all the way from India.

"These three fowls were bred from Asa Rugg's Grey Chittagong cock, with a yellow Shanghai hen, in Plymouth, Mass. They were an evident cross, all three of them having a *top-knot*! But, *n'importe*. They were then 'Burrampooters.'

"Subsequently, these fowls came to be called 'Burrampooters,' 'Burram Putras,' 'Brama-pooters,' 'Brahmas,'

'Brama Puters,' 'Brama Poutras,' and at last 'Brahma Pootras.' In the mean time, they were advertised to be exhibited at various fairs in different parts of the country under the above changes of title, varied in certain instances as follows: 'Burma Porters,' 'Bahama Padnas,' 'Bohemia Prudas,' 'Bahama Pudras.' And, for these three last named, prizes were actually offered at a Maryland fair, in 1851!

"Peter Snooks, Esq. (a correspondent of this journal), it appears, had the honour to be the fortunate possessor of this invaluable variety of fancy poultry, in its unadulterated purity of blood. He furnished from his own yard samples of this rare and desirable stock for His Royal Highness Prince Albert, and also sent samples to several other noted potentates, whose taste was acknowledged to be unquestionable, including the King of Roratonga, the Rajah of Gablesquash, His Majesty of the Cannibal Islands, and the Mosquito King. Peter supplies the annexed description of the superior properties of this variety of fowls:—

"The *Bother'em Pootrums* are generally hatched from eggs. The original pair were not; they were sent from India, by way of Nantucket, in a whale-ship.

"They are a singularly *pictur-squee* fowl from the very shell. Imagine a crate-full of lean, plucked chickens, taking leg-bail for their liberty, and persevering around Faneuil Hall at the rate of five miles an hour, and you have an idea of their extremely ornamental appearance.

"They are remarkable for prodncing bone, and as remarkable for producing offal. I have had one analyzed lately by a celebrated chemist, with the following result:—

Feathers and offal	39.00
Bony substances	50.00
Very tough muscle and sinew	02.00
Miscellaneous residuum	02.00

100.00

"A peculiarly well-developed faculty in this extraordinary fine breed of domestic fowls is that of *eating*. 'A tolerably well-fed *Bother'em* will dispose of as much corn as a common horse,' insists Mr. S—. 'This goes beyond me; for I have found that they could be kept on the allowance, ordinarily, that I appropriated daily to the same number of good-sized store hogs. As to affording them *all* they would eat, I never did that. O, no! I am pretty well off, pecuniarily, but not rich enough to attempt any such fool-hardy experiment as that!

"But Snooks is correct about one thing. They are not fastidious or 'particular about *what* they eat.' Whatever is portable to them is adapted to their taste for devouring. Old hats, India-rubbers, boots and shoes, or stray socks, are not out-of-the-way fare with them. They are amazingly fond of corn, especially a *good deal* of it. They will eat wheaten bread rather than want."

OUR LETTER BOX.

MORTALITY AMONG CHICKENS (*Maria*).—With the exception of one brood hatched in June, I have lost nearly half of five successive broods. A few have died of the gapes, some have become blind, and others have died without any apparent cause. They go on well for about three weeks or a month, and then begin to droop their wings—a sure sign that death is not far distant. I varied their food from corn to rice, from rice to potatoes, and then, again, barley alone. Nothing seems to succeed.

[Many chickens this year have died from the long drought. Many have been saved by water being thrown on the grass in their haunts. Your feeding is not good enough, unless the birds have access to something else. Whole corn is not good food; potatoes are worse; and rice is useless. In very dry weather, you may use your chickens of a month old as you do your flowers, *i.e.*, water them with a watering-pot every other day. Feed them twice every day with meal, or with a little whole corn to amuse them, and see that they have plenty of green food, if grass is not accessible to them. They are fond of Lettuces, and they are good for them.]

GOOD POINTS IN FOWLS (*Ignoramus*).—The season is now arrived when I wish to distinguish my best chickens from the commoner ones, did I but know the rules to guide me, for there appear to be such changes every year in the judging of birds at the shows, that I shall feel particularly obliged to you to inform me, before setting aside any of my birds for the table, what will be the fashionable colour this year for *Dorking* hens. Also, if it is imperative for *Silver-spangled Hamburgs* to have white ear-lobes? or, if those with bluish or red ears should be finer birds, and better spangled on their bodies and tails, which would be the best to keep? and whether the hens of that breed should have *white* or *grey* neck hackles, with good spangled bodies? Is it necessary for all the *Poland* classes to have white deaf ears? I have one *Silver-*

spangled Poland hen, whose chickens have *all* got five toes; is this any detriment to them? if so, will it be of any use my keeping her on another year, as she comes from a very good strain? or will the chickens probably be the same again? I have a *Poland* cockerel, long on the legs, and very weak: what is a good thing to give him? I am trying five grains of citrate of iron pills. How long must I give them to him?

[We believe there is but little variation in the decisions of our best judges; no more, in fact, than may be accounted for by the altered condition of fowls. The rules seem the same to us. We do not hold with fashionable colours for *Dorkings*, but we may safely infer the Greys, Lord Hill's colour, and those approaching it, will be most popular. It is imperative that all *Hamburgs* should have white deaf ears, but where such are not to be found in a class, then birds with a bluish will have the prize, but it would, we think, require a great amount of merit in other points for a blushing ear-lobe to beat a white one. White hackles in the hens are as bad as red ears; they should be well striped. *Polands* need not have such deaf ears as *Hamburgs*, and five claws are very objectionable. Give your cockerel bread and milk, and chopped egg.]

WARMING CHICKEN-HOUSES (*A Subscriber, Putney*).—It is a very bad practice to warm chicken-houses in winter. They should be dry and substantially built, and facing the south. Attached to them should be an open dry shed, with a flooring of sand and coal-ashes, where they will be secure of a basking place even in wet weather.

POULTRY TRESPASSING.—"My grounds are quite covered with my neighbour's poultry. I have remonstrated with them, but they take no notice whatever. They shut them up while the crops (hay) were on the ground, but even now they do harm, by scratching the sides of walks, &c. Can you or any of your correspondents tell me what I can do in the matter so as to get rid of the nuisance? Can I shoot them? I feel quite certain that many of your readers will be glad to see this matter noticed.—WM. ARMSTRONG."

[You would not be justified in shooting the trespassing poultry. Give your neighbours notice that their poultry do trespass, and that if the poultry are not kept at home you will sue their owners. After that you have your easy remedy in the County Court.]

LONDON MARKETS.—SEPTEMBER 8TH.

COVENT GARDEN.

The supply of Fruit and Vegetables continues sufficient for the demand. *Peas* are over; *Apricots* nearly over; but there are large arrivals of *Green Gages* and other *Plums* from the Continent. Home-grown fruit is now beginning to come in plentifully, and we have observed good samples of *Goliath* and *Denyer's Victoria Plums*. *Grapes* and *Melons* are plentiful, but *Pines* short.

FRUIT.

Apples, kitchen, per bushel	8s. to 12s.
" dessert	12s. to 20s.
Pears, per dozen	1s. to 3s.
Peaches, per doz.	6s. to 12s.
Nectarines, do.	4s. to 10s.
Pine-apples, per lb.	4s. to 6s.
Hothouse Grapes, per lb.	3s. to 6s.
Strawberries, per lb.	0d. to 0s.
Foreign Melons, each	1s. to 3s.
English Melons	1s. to 4s.
Morello Cherries, per lb.	1s. to 2s.
Cherries, per lb.	0d. to 0s.
Oranges, per 100	10s. to 20s.
Seville Oranges, do.	0s. to 0s.
Lemons	10s. to 15s.
Almonds, per lb.	9d. to 1s.
Nuts, Filberts, per lb.	9d. to 1s.
" Cobs, ditto	0s. to 0s.
" Barcelona, per bushel	20s. to 22s.
Nuts, Brazil, ditto	12s. to 14s.
Walnuts, per 1000	9s. to 12s.
Chestnuts, per bushel	0s. to 0s.

VEGETABLES.

Cabbages, per doz.	1s. to 1s. 6d.
" Red, per doz.	2s. to 4s.
Cauliflowers, each	2d. to 4d.
Broccoli, per bdl.	0d. to 0d.
Savoy	0s. to 0s.
Greens, per doz. bnch.	2s. to 4s.
Spinach, per sieve	— to 4s.
French Peas, per bshl.	0s. to 0s.
French Beans, per hlf. sv.	1s. 6d.
Carrots, per bunch	4d. to 6d.

Parsnips, per doz.	6d. to 9d.
Beet, per doz.	1s. to 1s. 6d.
Potatoes, per cwt.	3s. to 6s.
" Frame, per lb.	0d. to 0d.
" New, per lb.	0d. to 0d.
Onions, Y'ng, per b'nd.	4d. to 6d.
" Old, per bushel	0s. to 0s.
Turnips, per bunch	9d. to 1s.
Leeks, per bunch	2d. to 3d.
Garlic, per lb.	6d. to 8d.
Horsradish, per bundle	1s. 6d. to 2s. 6d.
Shallots, per lb.	6d. to 1s.
Lettuce, Cos, per score	1s. to 2s.
" Cabbage, per doz.	0d. to 3d.
Endive, per score	0s. to 0s.
Celery, per bunch	9d. to 1s. 6d.
Radishes, Turnip, per dozen bunches	— to 6d.
Water Cresses, ditto	6d. to 9d.
Small Salad, per punnet	2d. to 3d.
Artichokes, per lb.	— to 2d.
Asparagus, per bdl.	0s. to 0s.
Sea-kale, per punnet	— to —
Rhubarb, per bundle	3d. to 6d.
Cucumbers, each	4d. to 6d.
Mushrooms, per pot	1s. 6d. to 2s.

HERBS.

Basil, per bunch	4d. to 6d.
Marjoram, per bunch	4d. to 6d.
Fennel, per bunch	2d. to 3d.
Savory, per bunch	2d. to 3d.
Thyme, per bunch	2d. to 3d.
Parsley, per bunch	2d. to 3d.
Mint, per bunch	2d. to 4d.
Green Mint	6d. to 8d.

POULTRY.

There is a good supply of poultry at market, with small demand for it. Partridges are plentiful, but many of the young birds are very small and backward.

Large Fowls 4s. 0d. to 5s. 0d. each.	Hares 3s. 0d. to 0s. 0d. each.
Smaller do 3s. 6d. to 4s. 0d. "	Ducks 3s. 0d. to 3s. 3d. "
Chickens 2s. 0d. to 2s. 9d. "	Geese 6s. 0d. to 6s. 6d. "
Grouse 3s. 6d. to 4s. 0d. "	Pigeons 8d. to 9d. "
Partridges 0s. 9d. to 2s. 0d. "	Rabbits 1s. 5d. to 1s. 6d. "
Wild ditto 10d. to 1s. each.	

WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 16—22, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
16	Tu	The brick Moth.	30.133—29.954	68—54	W.	.04	39 a 5	11 a 6	6 57	17	5 21	260
17	W	EMBER WEEK.	30.026—29.944	62—55	E.	.06	40	9	7 13	18	5 42	261
18	Th	The frosted Orange Moth.	29.952—29.941	69—54	S.W.	—	42	6	7 35	19	6 3	262
19	F	The red-line Quaker Moth.	30.042—29.965	68—47	N.E.	—	43	4	8 2	20	6 25	263
20	S	[St. MATTHEW.	30.130—30.112	75—44	S.W.	—	45	2	8 46	21	6 46	264
21	SUN	18 SUNDAY AFTER TRINITY.	30.256—30.242	74—45	S.W.	—	47	v	9 41	22	7 7	265
22	M	Sun's declination, 0° 9' N.	30.274—30.237	75—41	E.	—	48	57	10 49	23	7 27	266

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 67.1°, and 46.0°, respectively. The greatest heat, 84°, occurred on the 17th, in 1843; and the lowest cold, 29°, on the 17th, in 1840. During the period 106 days were fine, and on 90 rain fell.

GRAND HORTICULTURAL EXHIBITION.

CRYSTAL PALACE.—SEPT. 10TH.

This was the first general Exhibition for gardeners and garden amateurs that was ever held in September near London, and it "came off" most triumphantly. The number of plants was immense, particularly of *Ferns* and *Lycopods*. *Japan Lilies* were magnificently in bloom. Stove and greenhouse plants in bloom were numerous; but, with one or two exceptions, not much to boast of. *Variégated plants*, and plants with beautiful foliage, were uncommonly fine. *Orchids*, not numerous; *Pelargoniums*, none; *Scarlet Geraniums*, tolerable, and no more; *Balsams*, not worth looking at, except two lots; *Cockscombs*, poor; *Verbenas* in pots, some not amiss, and some most execrable; *Gloxinias*, none to speak of; *Achimenes*, pretty fair, but only fifth-rate as compared to what you see down in the country at this season; *Fuchsias*, numerous, and not amiss, or not much to boast of, except two or three lots; *Heaths*, very few indeed, and only in mixed collections; *Nosegay Geraniums*, not one, and not one gardener out of ten among all the exhibitors knows what a Nosegay Geranium means. Three guineas are offered for the best *Nosegays*, but they must go to Strubland Park or to Trentham to learn about Nosegays before they can exhibit them. *Hybrid Perpetual Geraniums*, as *Unique*, *Sidonia*, &c., for which three guineas were offered, are hardly known among London exhibitors. The truth is, as I have insisted on for the last ten years, the "London season" Exhibitions have done just as much damage to gardening, and more so, than all the good they have done. Go into the country, and see the drawing-rooms and conservatories, and you must turn up your nose at the best efforts of these Londoners. But wait a while, and Sir Joseph Paxton will change the best tune which was played that morning by the bands; it went to these words:—

"The dogs like milk,
And the cats like blue,
The lasses like the lads,
And the lads the lasses too;
And we are all noddin, nid, nid, noddin;"

but monthly Shows, all the year round, or even September gatherings like this, will make you "all nod" a very different tune ere long. You were certainly caught "noddin" this time. I only wish the "great country party" were there to see it, who go about telling their gardeners the wonders of London cultivation. Why, these Londoners do not even know the names of a tenth part of the plants which country gardeners go through with; talk about *Verna*, *Enpatoria*, *Balaclava*, and the London season Shows in the same breath, until they get over the panic, and then for the Redan and Malakoff in grand style, as the Londoners alone can "do it."

The florists, on the other hand, appeared much better than with their *Pelargoniums*. Their *Dahlias* and *Hollyhocks* were beyond magnificent in numbers, in style of getting up, and in richness and brilliancy of colours; and the fruit growers the same; but recollect these

were chiefly from the country, where the dessert-tables are now crowded with the best things in season for the comfort and enjoyment of keen sportsmen, who are out from morn to dusk with dogs and bags and "splatter-dashes," and who would as soon shoot the ducks on the *Aquarium*, alias the horse-pond, as be seen with battuers.

There were 66 yards of *Dahlias* in three rows, standing as near to each other as they ought, and no more; 20 yards of *China Asters* in boxes, like *Dahlias*; 50 yards of *Cut Roses* in boxes holding four or five rows across; 10 yards of *Hollyhocks* in spikes and in ent blooms placed like *Dahlias*; 25 yards of *cottagers' fruit*, *flowers*, and *vegetables*; and no less than 150 yards of *fruit*, packed quite close together. More than a duplicate of these many yards were on the east side of the great transept, loaded with plants, besides heaps of side stands and a large table for *fruit-trees in pots*, with every spare angle and corner about the Pease monuments; but the central space in the great transept was comparatively free.

Mr. Sim, of the Foot's Cray Nursery, in Kent, took up his old position under the clock tower (Bennett's), with the largest number of kinds of *Ferns* ever exhibited by one man at one time. The country must certainly be mad about *Ferns*, when you must not only grow them to perfection itself, but exhibit them on the steps of a clock tower, as if to keep time for all this madness.

In collections of twelve stove and greenhouse plants, the first prize was won by Mr. Taylor, gardener to J. Coster, Esq., Streatham. His plants showed that he has not been "noddin" these many years past. He had a fine *Vinca oculata*, the white one, with the red eye; a splendid *Allamanda cathartica*; a beautifully-grown *Ixora coccinea*; a *Pleroma elegans* in good style; an *Allamanda grandiflora*, *Dipladenia crassinoda*, *Ixora rosea*, *Cyrtoceras reflexum*; and a "garden seedling" *Heath*.

Mr. Peed followed, taking the second prize with a very good *Stephanotis floribunda*, *Ixora coccinea* and *alba*, *Pleroma elegans*, *Echites*, *Dipladenia*, *Cyrtoceras*, *Rondeletia speciosa*, a large *Erica Irbiana*, another fine *Heath*, misnamed *Uriana* for *Eweriana*, and *Allamanda Schottii*.

Mr. Hamp was third best with *Ixora Javanica* and *coccinea*, *Statice Holdfordi*, *Æschynanthus splendens*, *Erica retorta*, *Tetralæna verticillata*, *Cyrtoceras reflexum*, *Clerodendron fallax*, *Dipladenia splendens*, *Vinca rosea*, and *Erica Eweriana*, one of the best flower-garden *Heaths* that ever came from the Cape, and requiring no more care than a *Rhododendron* of the same degree of hardiness; and Mr. Hamp was fourth with similar plants; and several others tried their luck in twelves without much difference in the kinds of plants, except Mr. Cutbush, nurseryman, Barnet, who had a good plant of *Polygala Dalmatica*, showing it may be had from March to September. I often named it from a March meeting in Regent Street. A good *Nerium*, and

one of the best of good old plants; a Coral-plant in good bloom, *Erica ampullacea* Scotica; and *E. vestita coccinea*, and others.

In one collection of sixes from Miss Trail were *Plumbago Capensis*, a good *Gesnera splendens*, and a good *Achimenes fulgens*; but there was nothing in all these different collections to interest country gardeners. I was asked to note more particularly what would "come in" for the conservatory. Then followed *Lilium lancifolium* in sixes, and they stood thus:—Mr. Woolley, six in two rows; Mr. Young, ditto; Messrs. Jackson, my next-door neighbours, three *Rubrams* and three *Albums*, and one of the *Rubrams* was a seedling, and the best there; Mr. Cutbush, of Highgate, six; Mr. Gains, cross seedlings of his own, which he calls *Arboreas*, one of which comes flat-stemmed every season; Mr. Hally, of Black Heath, also all seedlings, more or less like the parents; and Mr. Barnes, of Camdon Nursery, had the tallest Lilies. Mr. Young, gardener to F. C. Hills, Esq., Denmark Hill, had the first prize for these gaudy Lilies; Mr. Barnes, second; Mr. Woolley, third; and the Messrs. Jackson, fourth.

Then followed *Verbenas* in collections of twelve plants, and five competitors. The best grown were from Mr. Shrimpton, gardener to A. J. Doxat, Esq., Putney Heath, and the second by Mr. Weatherell, gardener to D. McNeil, Esq., one of the best growers about London, and the only one who exhibited a collection of cut flowers of *Verbenas*; but he caricatured them so sadly that no man on earth could make out if any one of the kinds was worth a stiver or a five-pound note—a pyramidal nosegay of each kind! An excellent way for a drawing-room, and the worst for public exhibition.

Thirty *Cockscombs* in three collections, won by Mr. Boringdon, Mr. Thnard, and Mr. Graham; but they were only very ordinary, though of very good strain. *Balsams* next, but not worth a "doit" as to growth, compared to what I had seen the week before down a hundred miles in the country. They must all go down to the provinces to learn to grow *Balsams*, and Mr. Smith, of Dulwich, at their head; for he is the best of the poor growers about London, and took the first prize here. It is just with London *Balsams* now what it was a few years since with the Chinese Primroses about London. They do not seem even to have yet dreamed of the capabilities of the *Balsams*.

Scarlet Geraniums, "distinct kinds," as if I had made out the schedule. They have no scarlet pedantry and Pelargoniums at Sydenham; they plant with Scarlet Geraniums and give prizes for Scarlet Geraniums. Mr. Weatherell took the first prize with well-grown plants, *Le Titian* being his best, and for the centre *Rubens*, directly in front of *Titian*, and *Lady Middleton* close on the right—a very bad arrangement. Three distinct shades of pink, but disagreeing in shading, close together, show how little the effect of colour is understood among the very best gardeners in England. Oh, for a Duchess of Sutherland, or an Hon. Lady Middleton, to inoculate the eyeballs of our *Titians*! Sixteen years ago I was as blind as any of them, perhaps the blindest, but, thanks to the ladies, I can now see, though yet but dimly; and I would have placed *Punch*, which is the next in this collection, where *Rubens* stood, and put *Rubens* where *Punch* was, then the lot would be worth ten guineas more than it was. *Trentham Rose* was the top off-hand corner, or at cross-angles with *Lady Middleton*, but the two flowers are exactly the same. The "distinct" in the schedule ought to meet such a case next year, and say "distinct kind of flowers;" the distinctness here is only in the constitution of the two kinds.

The second prize went to Mr. Lavey, who exhibited different kinds of the *Frogmore* breed, and one other kind; and Mrs. Conway had the third prize with *Royal-*

ist, *Defiance*, *Brilliant*, *Cerise Unique*, *Tom Thumb*, and *Wallace*—a new name to me, but the kind is not worth much. Mrs. Conway had a prize also for a collection of *Variegated Geraniums*, the only collection of them there; and Mr. Mitchell, of Brighton, had a collection with *Baron Hugel*, *Masterpiece*, *Trentham Rose*, *Brighton Hero*, and *Emperor*, but which *Emperor* was not stated. My own plant of *Emperor Napoleon* is among the dwarfest, and is an intense crimson scarlet, darker than the new *Trentham Scarlet*.

Fuchsias followed, and Mr. Mitchell took the first prize triumphantly; just the style of growth for a first-rate conservatory, three white and three red. The whites were *Queen of Hanover*, *Princess of Prussia*, and *Venus de Medici*, a beauty. The three reds were *Prince Albert*, *Favourite* (? Banks), and *Nil Desperandum*. Mr. Weatherill was second; Mr. Bragg, third; and Mr. Gains, fourth; with an extra to Mr. Harper. The best whites out of them all were the *Duchess of Lancashire*, *England's Glory*, *Pearl of England*, and *Olio*; the best white and blue was *Venus de Medici*; *Favourite* and *Prince Albert* being the best two red ones to a non-florist's eye.

Achimenes.—Mr. Mitchell took the first prize here also. *Edmund Rossier*, a light streaked flower, and *Sir Treher Thomas*, of the *Venusta* breed, being the best two of them. Mr. Gains took the second prize, and Mr. Gedney the third.

Lycopods came next in order of placing in great strength, but there were no new kinds. Here shined Mr. Hally, Mr. Cutbush, of Highgate, Mr. Bowsie, Messrs. Jackson, Mr. Childs, Mr. Parker, and Mr. Woolley, and on side tables Mr. Gedney and Mr. Gains.

Ferns were in still greater force, Messrs. Woolley, Parker, Carson, with large kinds; Fletcher, Gains, Morris, Childs, Jackson, Lavey, Hally, Cutbush, of Highgate, and several others competed in Ferns; and Mr. Sim, at the clock tower, had them all his own way.

A collection of fine *Pitcher Plants* from Mr. Veitch. *Heaths* from Messrs. Brush, Peed, and Williams, gardener to Miss Trail.

In *Orchids* Mr. Carson had a large *Peristeria alata*, the old Holy Ghost Plant, now getting scarce; *Vanda carulea*, Butterfly Oncid; *Epidendrum vitellinum*; and a fine *Oneidium lanceatum*. Mr. Woolley, a large *Miltonia candida*, *Odontoglossum grande*, *Angraecum eucallatum*; *Erica leucostachya*, with seven drooping spikes of white flowers, the first of the kind at a Show; and *Epidendrum radiatum*. Mr. Gedney had *Vanda tricolor* and *suavis*, or *insignis*, a Butterfly Oncid; a *Sobralia macrantha* with one flower, *Aërides suavissima*, *Angraecum caudatum*. I did not see the prize tickets to these Orchids, but Mr. Carson had the first prize.

Variegated and fine-foliaged plants were in vast numbers, but nothing particularly new among them. Mr. Veitch and the Messrs. Jackson staged their collections with the eye of a Titian, but the rest of these plants were "set" more for convenience than for effect. Mr. Veitch put them up thus:—*Livistonia Borbonica* and *Philodendron pertusum* for centre and key-note; two *Dracaenas* to match, one on either side; a *Sabal* and a *Pandanus* ditto; and *Plectocoma* to match *Aralia pulchra*. Messrs. Jackson put the Palm *Acrocomia sclerocarpa* in the centre at the back, and wrought down to either side with well-matched kinds, thus:—*Cordyline australis* in front of the first Palm; then *Dracaena cuneifolia* and *Cyclanthes*, to match on either side at top; *Areca rubra* and *Dion utile* the next match, the latter plant, the Mexican *Dion*, being the finest of the kind, perhaps, in England; then *Aralia macrophylla* in the front centre, and with *Pandanus odoratissimus* on one side, and a species of *Phyllanthus* to match. *Ocrotus discolor* in two or three collections was the greatest stranger to the Show; the under side of the leaf is reddish crimson, and

looks very rich. Mr. Veitch had the first prize, Messrs. Lee the second, Mr. Jackson the third, and Mr. Parker, of Holloway, the fourth.

In miscellaneous lots a fine *Voloto splendens* from Mr. Gedney is the *Vallota purpurea major* of botany. The spelling of this Show was below the average of dead carelessness.

Mr. Peed, gardener to T. Tredwell, Esq., of St. John's Lodge, Norwood, had a collection of real curiosity and great interest—one of grafted *Geraniums*, thus:—1. *Miss Emily Field*, a blush-white flower; 2. *Kingsbury Pet*, an excellent house plant; 4. *Reidii*, apparently a cross from *Baron Hugel*, alias *Courey's Princess Royal*, a fine pot plant, grafted three feet high, the two before it not quite so high; 4. *Boule de Neige*, grafted fifteen inches above the pot, and four feet high; 5. *Commander-in-Chief*, five feet high, and grafted four feet from the pot; 6. *Le Titian*, four feet high; 7. *Brilliant* ditto; and 8. *Attraction*, three feet six inches high. A gentleman of great skill and ingenuity wrote to me six weeks ago, saying that *Geraniums* would graft as freely as Apple-trees, and by the same kinds of grafting; but Mr. Peed grafted all these on the continental plan of cutting off the top of the stock, and splitting the top of it in halves about an inch and a half, or not more than two inches, and wedging the end of the grafts to slip down into the slit. The union in all of them was perfect. That, in my eyes, was the best triumph at this Show.

Next to these, and still among the miscellaneous, stood a fine lot of plants from our Kingston Nursery—*Odontoglossum grande*, with four spikes of immense blooms. They “do” this fine Orchid at Kingston better than all the English growers, and bloom lots of them every year in the cool end of their conservatory next the public road. Also, *Allardtia cyanea*, a dwarf, smooth-leaved Pine-Apple-like plant, with a “tassel” of Prussian blue flowers in the centre. *Sir Colin Campbell*, the hero of the heights of Balaclava, from whom we expected great things, has turned out an ordinary kind of Scarlet *Geranium*, but will make one of the best standard or specimen plants on grass; and several others. A large collection of cut specimens of variegated and fine-foliaged plants from Mr. Paul, of Cheshunt; and a common lot of mixed *Cactuses* from some one; three splendid *Brunsvigias*, or Candelabra plants, from Mr. Leach, of Clapham Park; a new Fern, a “dusty miller,” a kind of *Gymnogramma*, from Mr. Brocklehurst. It is whiter on both sides than the common one is below. Sixteen pots of a “new *Perilla* from California,” from Mr. Nevill, but I think that is a great mistake; the plant is just from the opposite shores of the Pacific, in China and Japan, if I mistake not, and is the same as I mentioned at page 78 of the 11th volume. The plants are, indeed, extraordinarily well-managed, and might pass for novelties even so near London. Every leaf was of a dark bronzy lustre on a purplish-black ground all over every part of the plant. I am still of opinion this would be a useful plant as a pot-herb.

Passing over several other lots as calling for no special remarks, let us now look at the florists' flowers; but for want of room I can only give the names of the winning parties. The first prize for fifty kinds of *Dahlias* was won by Mr. Turner, of Slough, and also the second prize for twelve; the second by Mr. Keynes, of Salisbury; third by Mr. Legge, florist, Marsh Side; fourth, Mr. Kemberley; and two extras to Messrs. Fraser, of Lea Bridge, and Drummond, of Bath. For the best twenty-four kinds, first prize to the Rev. Charles Fellowes, Shottesham Rectory, Norwich; second to Mr. Holmes; third, Mr. Leslie, of Stonehouse; fourth, Mr. Shadden, of Ash, near Sandwich; and two extras to Messrs. Cook, of

Notting Hill, and Allen, of Shacklewell; and in twelve the names stood thus:—First, Legge; second, Turner; third could not be found; fourth, Fellowes; and four extras to Fraser, Kemberley, Bragg, and Drummond. There was an awful push here, and some of the names I could only guess at.

China Asters had no prize tickets late in the afternoon.

Roses, in fifty kinds, Mr. Lane was at the bottom altogether this time; and Mr. Mitchell, of Pelldown Nursery, Maresfield, Sussex, was first, with *Roses* as fine as if it was a June Show; Mr. Paul, second. There was another collection as good from a new man, Mr. John Cranston, King's Acre, near Hereford; but he was disqualified, through some rule being broken by some one. Messrs. Fraser also had a third prize for fifty. For twenty-five kinds, Mr. Brush, of Norwood, came in first; Mr. Evans, second; and Mr. Woolley fourth.

Hollyhocks, two collections in spikes, Chater first, and Paul second best. For *Out Hollyhocks* in twenty-four blooms, Mr. Paul first, and Mr. Chater next; Mr. Turner third; Mr. Bragg fourth; and Mr. Fraser an extra; and a third prize, only for seedlings, to Mr. Skenton, Hendon Park, the seedlings being three shades of rose, and a primrose-coloured.

I much regret I could not get fully the winners in the cottagers' classes, for the tickets were shamefully huddled together, as if of no account whatever. The chief cottagers' prizes, however, were given to Wm. Moser, of Broxbourne, Herts, for the best collection of *Vegetables*; for the best *Potatoes*, to E. Amies; for the best *Carrots*, to J. Turner; for the best *Onions*, to E. Amies; for the best *Cabbages*, to D. Friend; and for the best collection of *Pot-herbs*, to G. Bulbeck. I never saw anything more carelessly done, unless it be to entice respectable men to report, by giving them free tickets, and then order the police to “turn them out” neck and heels; but, as good luck would have it, I met Sir Joseph Paxton himself, as I was going to the secretary's office, in high dudgeon, and there it ends. Chiswick was perfect in respect to judges and reporters, except in one most monstrous rule of Dr. Lindley's, by which he would not allow any reporter to speak to the judges, as if he was dealing with rogues and thieves; but all this, and more of it, belongs to long bygone days.

The *Grapes* were particularly good, and there were some fine *Peaches*, *Plums*, and *Cherries*. *Figs* were also very good. *Pines* and *Melons* of the ordinary run. *Apricots* were not very good; but *Apples* made up for them, and there were some very good-looking *Pears*. The fruit in pots was as good as pot-fruit can be expected at this season. For Vines in pots, first prize to Mr. Forsyth, gardener to Baron Rothschild, at Gunnersbury Park. For *Peaches* and *Nectarines* in pots, first prize to Mr. Kaile, gardener to the Earl of Lovelace. Mr. J. F. Young, Mr. J. Croker, and Mr. August, took first-class prizes in their respective classes for fruits as amateurs; but I went within the ropes to get at the winners of the gathered fruit, and here they are, at least the greatest part of them:—For three dishes of three distinct kinds of *Grapes*, first prize to Mr. Fleming; second prize disqualified somehow; and third, Mr. Alborough, Brook House, Norwich. For box of twelve pounds of *Grapes*, first, Mr. Harrison, Outlands; second, Mr. Kay; third, Mr. Keyes; and fourth, Mr. Munro. Here the *Champion Black Hambro'* came in from Mr. Clark, market gardener, near Manchester, and I may have told of his *Champion* before, and forgot it. It is a very large sort of *Hambro'*. Collection of twelve dishes, only one from Mr. Tillyard; ditto ten dishes, Mr. Fleming; ditto in eight dishes, first, Mr. Frost, Preston Hall; second, Mr. Robinson, Warnford Park; third, Mr. Taylor, gardener to J. Coster, Esq.; fourth, Mr. Kaile, gardener to Lord Lovelace; and an extra to Mr. Martin, Selwood Park, Sunning Hill. For best

two *Pine Apples*, first, Mr. Dawson, Panshanger, Herts; second, Mr. Jones, Dowlais; and an extra prize for six Pines to Mr. Peed. For single *Queens*, first, Mr. Barnes, gardener to Lady Rolle; second, to Mr. Bray, gardener to J. Lousada, Esq., Peak House, near Sidmouth; and third, to Mr. Page, Park Hill. For single *Providence*, first, Mr. Bray aforesaid, and next, Mr. Stuart, gardener to the Duke of Devonshire. For two dishes of *Muscat Grapes*, first, Mr. Snow, gardener to Earl de Grey; second, Mr. Fleming. For largest single bunches of *Grapes*, first, Mr. Young; second, Mr. Tillyard; third, Mr. Vare, Brentwood. For *Peaches* and *Nectarines*, first, Mr. Frost and Mr. T. Dawson; second, Mr. Tillyard; third, Mr. Fleming, and ditto Mr. Shrimpton. For *Apricots*, first, Mr. McEwen, Bodorgan; second, Mr. Evans; third, Mr. Nicholson. *Peaches* and *Nectarines*, six dishes, first, no name; second, Mr. Hudson, gardener to Mrs. Barchard, Wandsworth; third, Mr. Tillyard; and an extra to Mr. Snow. *Figs*, two dishes, first, Mr. Bowsie, gardener to the Right Honourable H. Labouchere; second, Mr. Robinson, Warnford Park; third, Mr. Taylor, ditto Mr. McEwen, Bodorgan; and an extra to Mr. Snow. *Cherries*, two dishes, first, Mr. Dawson, Panshanger; second, Mr. Hudson; third, Mr. Betteridge, Norwood; and an extra to Mr. Fleming. *Plums* in three dishes, first, to Mr. Snow; second, Mr. Bowsie; third, Mr. Robinson; and an extra to Mr. Kemp. For six dishes of fruit, first, Mr. Mitchell; second, Mr. Tegg; third, Mr. Robinson. For *kitchen Apples*, first, to Mr. Munro; second, Mr. Mitchell; and for *Pears* the first prize to Mr. Mitchell. Other fruits:—*Green Madras Citrons*, Mr. Fleming; ripe ditto, Mr. Williams, gardener to Mr. Warner. *Sweet Oranges*, no name. *Lemons*, ditto. Fruit of *Passiflora cinnabarina*, from a conservatory, High Grove; these were green, oblong, and not larger than the fruit of *P. edulis*. *Grapes of super-excellence*, Mr. Fleming, Mr. Ingram, and Mr. Clarke. For a whole collection of *Grapes*, Mr. Fleming. These were *Barbarossa*, *Muscat ottonelle*, *Muscat Noir d'Angers*, *New Black Muscat*, *Muscat citronella*, *Royal Muscadine*, *Dutch Hambro*, *Muscat Groomier du Cauld*, or some such name, &c.

D. BEATON.

ICE-HOUSES NOT PRESERVING ICE.

NOTWITHSTANDING all that has been said about the keeping of ice, and the ease and simplicity with which it is said to be preserved, it is, nevertheless, true, that in some situations it is with difficulty made to keep later than the middle of August, and often not so late as that, even in ice-houses or wells apparently well adapted for the purpose. One of these cases being in the immediate neighbourhood where I write from, I herewith give the particulars.

A gentleman, anxious to have ice throughout the summer, dug an ice-well near a piece of water, from whence it might be easily filled. The dimensions inside are about fifteen feet deep by twelve feet in diameter, the roof being flat and composed of cemented tiles; but the sides were ordinary brickwork, with a moderate-sized door near the top, with a few feet of passage, and another door in the usual way, the whole being covered in with earth and shrubs planted thereon, some overhanging trees shading it from the south as well; the only portion above the ordinary surface of the ground being some three or four feet, and that cased over in such a way as to resemble an ordinary mound. The soil in which it was dug was a light, open one, resting on a loose, black sand, much charged with water; but, to remedy this, as well as to carry away the water from the melted ice, a drain was laid from below the bottom of the well, and trapped, to

prevent the air travelling backwards. Now, having taken all this care, the gentleman naturally expected ice to keep throughout the summer, instead of which, it was all gone the first season by the beginning of July, and since then has never kept later than the middle of that month, the consumption being very small in all cases.

Now, what is to be done in the above case? Here is what appears to be a capacious, good ice-house, that will not keep the ice; and the query is, How is it to be made to do so?

I am aware that some will be finding fault with the wet subsoil next to a quicksand; but then it is met by a drain, which carries off the water without its coming in contact with the ice, and there is nothing else, apparently, wanting to make the ice keep well.

As a contrast to the above I may mention that the ice-house at this place (Linton Park) answers remarkably well, its capacity being about the same as the one alluded to, only different in shape, being about twenty-one feet deep, measuring from the crown of the dome to the bottom, and about eleven feet in diameter at the widest part near the top, the bottom being about five feet wide. It is built, or rather, dug, on the side of a steep hill, on a dry, stony subsoil, that will absorb any amount of water that might be poured upon it; in fact, one of the best natural drains that can be. The ice keeps well in it, for I have seen a body of ice ten feet thick in the early part of September; and yet it differs but little in situation and other features from the one mentioned above, the only apparent difference being that the one is surrounded by a wet, springy sand, the other by a very dry, stony material. That these should make the difference in the keeping properties of the ice is odd, as the melting water is carried away in the one as well as it is sucked in by the other. It may be that the spring water, or rather, the vapour from it, warms the house in the one case, and thereby melts the ice, which is not met by anything of a like nature in the other; for we all know that spring water, however cold it may feel in summer, is many degrees above the freezing point, and a visible vapour will arise from it in frosty weather, as is often seen at such times in those natural springs which open to the surface; and in rural districts it is often remarked as a "sharp, frosty morning when the well smokes." It is not too much to suppose that the warmth supplied by this spring water contributes to the wasting of the ice, although it must be observed that no water accumulates inside, and, in fact, it does not percolate the brickwork to any extent, but has been contrived to drain off behind it: neither does the bottom of the ice come in contact with it, for it is supported on laggot-wood or other open, non-conducting material. Still, as I say, the house does not keep its ice well; and what is to be done to make it do so? Perhaps some one who has cured such an ice-house will be kind enough to give the benefit of his experience, which will be of infinitely more service than the most plausible opinion; and as the owner is anxious for something to be done in the way of improving it, he will, most likely, be guided by any well-confirmed example of a house or well being cured when previously it had failed to keep ice satisfactorily.

While on this question I may say that much difference of opinion has existed at various times upon keeping ice. Thirty years ago it was customary to exclude the air by all possible means, by having long passages with intermediate doors, and portions of this passage crammed full of straw, the chinks or crevices of the doors being plastered up with mortar, and straw itself laid over the ice inside, as well as packed against the side walls in the course of filling the house. All these contrivances, no doubt, contributed to the well-keeping of the ice; but they were sad hinderances in the way of getting at it

when wanted, but in a general way it kept well. But as years rolled on, the fashionable ingredient, salt, was called into use, and salted ice, like salted beef, was said to last longer than fresh, and several parties tried this, with, however, an unsatisfactory result, and it was abandoned, and some improvements in the build of ice-houses were thought to be a grand acquisition, Mr. Fortune's return from China having confirmed the fact that ice-houses need not be under-ground, as he told us ice was kept in that warm country under a thick coat of thatch quite above-ground. Hence an old plan of stacking it up was revived, and stacks of ice were common about 1846 and after; but the number of failures in keeping it that way far out-numbered those of a contrary kind, and the old plan of keeping it in ice-houses was resorted to, only some parties near town left off filling their houses for a year or two, foreign ice of a much superior quality being attainable at a reasonable rate. Subsequently, however, shipping became otherwise employed, and we have had less of the "Wenham Lake ice" than before, and a return to the old-fashioned mode of keeping it became necessary, and, with more or less success, has continued ever since.

As the season is fast advancing in which alterations to ice-houses ought to be made, I should feel obliged for any information bearing on the case alluded to. That I have a sort of opinion of what may have been the cause of the ice melting, as well as a sort of remedy for it, I will not deny; but I am far from certain that I am right, and would more willingly act as others describe their experience to have been; besides which the public would be benefited by being put in possession of the best mode of building ice houses; and the increasing demand there has been of late years for luxuries of all kinds has likewise extended to this article; and though chemical science has proved that ice may be manufactured at any time by any one possessing the ingredients and apparatus for doing so, yet the expense is such as must render such ice more a novelty than one that can be made subservient to the wants of everyday life.

J. ROBSON.

NOTES FROM PARIS.

AMONG other improvements lately made in the Garden of Plants may be mentioned the formation of a rockwork on the summit of the mound, and the removal of the old, high, and unsightly hedges leading to it. This alteration has a very good effect so far, as the adjoining grounds are more easily seen; but, unfortunately, the banks have been filled exclusively with young Yew-trees, which have not a very lively appearance, and are but little in keeping with the rockwork or the herbaceous plants with which it is studded. The mound is about fifty feet above the general level of the garden, and from the handsome kiosque at the top a good view of all Paris may be obtained; but some of the trees in the vicinity have, of late years, grown so much, that they begin to diminish this facility considerably, and it were desirable to raise the ground some six or eight feet more. This part of the garden, chiefly filled with Conifers and other ornamental trees, is in excellent order at present. The herbaceous department, too, is in all its splendour, and some of the clumps are filled with variegated plants of the most brilliant colours. Among the conservatory plants at present out of doors are some remarkably large Orange-trees, and several beautiful specimens of the Pomegranate-tree, the latter from fifteen to twenty feet high, and profusely flowered. The stems of the Pomegranate, it would appear, always assume a twisted manner of growth after a certain number of years. One of the largest and finest examples of *Sophora Japonica* which I have ever seen is in this garden, near the Gallery of Geology. Its trunk is about two feet in diameter near the base, and I should say it was at least fifty feet high.

It is, perhaps, worthy of note, in speaking of trees, that the tall and majestic white Poplar, so essential in an

English garden or landscape, is very rare here. Except in a small private garden near the Rue Turgot, in the miniature square of the Cité Trévise, and one or two spots near the river, I do not recollect seeing it anywhere, certainly not on any of the Boulevards, where there is no want of variety. It may be said that the Poplar is not the most suitable for affording shade; but there are plenty of places where it would have a more agreeable effect than any other sort, without either diminishing the shade or obstructing the view. The effect of the few trees growing by the Seine is all that could be wished, and a better example than that in the private garden alluded to is not often seen.

But, after all, it is not quite correct to say that the Poplar is not adapted for shade; for, planted at short distances and in double rows like a narrow avenue, it is the most complete shade of all. Even in a single line, and planted in a particular direction to the sun, at a certain time of the day Poplars give a better shade than any other tree.

The directors of the Garden of Plants* have lately erected, near the Library and in the front of the Gallery of Geology, a handsome, full-sized marble statue of Michel Adanson, one of the first and most celebrated of French naturalists of the modern school. The statue has been executed with much skill by Etex, and represents the great philosopher robed, and in a standing attitude of deep study, with his right hand raised to his chin, and his elbow resting on the trunk of a tree. In his left hand he holds some specimen of natural history, apparently a mineral.

Michel Adanson† was born in 1727, at Aix, in Provence, now called Haute Vienne, one of the southern departments of France. His ancestors were originally from Scotland, and had been distinguished for their devotion to the House of Stuart. They came to France among the followers of Charles II., and finally settled here. Michel made his studies at the College of St. Barbe, much renowned at the time. He astonished all by his persevering study, and took the first prizes in every department of learning. After leaving college, he resolved on travelling in Africa, and in 1748 he sailed for Senegal and the Canary Islands, with the view of prosecuting his researches in natural history in all its branches. While in Africa he continually sent home collections of plants, fossils, insects, shells, and other specimens to the French Academy, the Garden of Plants, and the Garden of Louis XV., at Trianon, near Versailles. He returned home after an absence of five years, having collected, during that time, more than 30,000 new species, which, added to 33,000 which he knew before, made the incredible number of 63,000 species known to him. In the various departments of natural science, Adanson appears to have had a mind much too active and comprehensive to be satisfied with the study of any particular science. He aimed at acquiring the greatest possible knowledge of every science, and uniting them into one. He studied all that had been known before, and, by a sharp analysis, detected every hidden error in old systems and theories. The natural result was a desire to construct them afresh, and add the treasures of his vast experience and research. He was ambitious to display the sciences, for the benefit of mankind, like a vast *tableau*, in which the nicest divergences of one to another, as well as the proofs by which the principles were established, should be clearly indicated. He calculated that twenty-seven volumes would be required, besides several volumes of plates, and it was his habit to work at least eighteen hours every day.

The plan of his work, with what he had published of it, was submitted to the Academy in 1774, and all were astonished at the great knowledge of the author, which, however, as is proved by the sequel, was much too vast for the labours of any one human existence.

About the time just mentioned Adanson delivered lectures in his own house and elsewhere on natural philosophy, not only with the view of instructing others, but also of finding

* Before the first revolution this was called *Le Jardin du Roi*. Under the republic the name was changed to *Le Jardin des Plantes*, and by this name it is generally known at the present day, though the correct title is now the *Museum d'Histoire Naturelle*, which applies to the whole establishment, including the garden and plant-houses.

† It is very probable that the real family name was Adamson, and that the *m* was replaced by an *n* in order to render the pronunciation more in unison with the French language. This supposition is supported by the fact, that Adamson is not an uncommon name on the other side of the Tweed.

out those who could enter into his views, and afford him co-operation.

While engaged in what he called *l'Ordre Universel de la Nature*, or Natural System, he made a tour through nearly every department of France, even visiting the Pyrenees and the Alps, with the view of studying the interior structure of high mountains. He returned with an immense collection of valuable specimens, besides a great number of drawings. But alas for such devotion to science! The revolution came, and, like thousands more, Adanson lost all, and was reduced to great privations in his old age. But better times returned, and his circumstances slightly improved. He built a small house, and continued his studies till within a short time of his death, which took place in 1806, at the advanced age of nearly eighty years. Among his MSS. a curious work on the monstrosities of plants was found. He also left a work called *Histoire Naturelle, en Tableau*, consisting of about 2,000 drawings, all done under his direction by able artists: some of the figures had been engraved. There is, besides, a treatise on Vegetable Physiology, applied to Agriculture and Horticulture, together with many other important papers, which testify to his immense knowledge and his marvellous facility of working. I cannot say whether these MSS. have been published separately; but what of his great work was completed was published in the year 1763. The second edition came out in 1847, including all that had been prepared and left in MS. The editors are Alexandre Adanson and J. Payer, who have added what was required to bring the work down to the present day, and they have given a considerable number of engravings. The title is *Les Familles Naturelles des Plantes*. The first part comprises the history of botanical science. It indicates great research, and contains, among other features, a table of brief particulars relating to the botanical writers of every age and country. Adanson was a member of the Royal Society of London, and, besides being an accomplished scholar, as well as a profound philosopher, he was one of those original minds which never fail to leave their impress on the age in which they live.—P. F. KEIR.

HOW OUGHT BRIER TO BE SPELT?

I TAKE in your COTTAGE GARDENER monthly, and, therefore, do not see the correspondence directly, so your question about the orthography of Brier may have been answered by some one more competent than myself. If so, my remarks may be thrown aside. YOUR OWN COTTAGE GARDENERS' DICTIONARY spells it *Sweet Briar*, omitting any mention of *Brier*.

Johnson spells it *Brier*.

The Bible of 1551, *Bryars*.

Gascoigne, an early poet, died 1750—

"Among the Bramble *Briers*."

Stow, in *Chronicles of Edward VI.*, 1552, *Briers*.

Barrow, in his 30th Sermon, *Briars*.

Cowper, in the *Task*, Book 6,—

"Picked from the thorns and *Briers* of reproof."

Byron, in *Beppo*, Stanza 4th, first line,—

"You'd better walk about begirt with *Briars*."

Chaucer spells it *Breres*, and only in one author do I find it used in the singular number.

Browne, in the *Shepherd's Pipe*, Eclogue 2,—

"And spoyle the smelling *Breere*."

The word is Anglo-Saxon, *Brær*, to prick.

I think, from the authorities quoted above, that the word may be spelt with either *e* or *a*, and yet be correct.—A. Q.

[Our correspondent leaves the question in about the same doubt as he found it. Authorities spell the word *Briars* and *Briers*. The latter is nearest to the Anglo-Saxon.]

VEGETABLE CULTURE AND COOKERY.

CAPSICUM.

THERE are a great many varieties of the Capsicum, but those which are generally cultivated for domestic use are the *Long Red* and the *Chili*. There is another called the

Bird's Eye, a small, round variety, not much larger than a Marrowfat Pea. They are all used for pickling green, and as ingredients in soups, sauces, salads, and pickles, or, when ripe, ground to a coarse powder to make Cayenne.

The seed is to be sown in pots at the end of March or beginning of April, and placed in a hotbed, Cucumber frame, or any other place of a similar temperature. When the plants are two or three inches high, they are to be pricked out, three in a pot, in some rich soil, and returned to the frame, where they are to remain till the roots fill the pots. They may then be repotted into larger pots where they are intended to remain, either singly or in threes; and about the middle of June gradually hardened off so as to stand out in the open air, where they may be planted under a wall with a southern aspect, or in some other warm situation. At the end of August, or beginning of September, the pods will be ready to gather.

It is the ripe pods of the Capsicum, when dried and ground, which form the true Cayenne pepper.

TO PICKLE CAPSICUMS.—Gather the pods with the stalks on before they turn red; cut a slit down the side, and take out all the seeds, but as little of the pulp as possible; lay the pods in a strong brine for three days, changing it every day; take them out, lay them on a cloth, and lay another over them till they are dry; put them into a glass or jar, and having boiled as much vinegar as will cover them along with some bruised mace and nutmeg, pour this over them when it is cold. Secure the bottles or jars with corks or bladder, so as they may be air-tight.

CAPSICUM VINEGAR.—Take six Long Red Capsicums, which slit up, and boil in three pints of strong vinegar; boil down to one quart, and then strain and bottle it for use. It will keep for years.

CHILI OR CAYENNE WINE.—Pound and steep fifty fresh Red Chilies or a quarter of an ounce of Cayenne pepper in half a pint of brandy, white wine, or claret for fourteen days. This, which takes up a larger proportion of the flavour of Cayenne than of its fire, will be found a very warm auxiliary to season and finish soups and sauces.

CHILI VINEGAR.—Infuse fifty fresh Red Chilies, cut in half or pounded, in a pint of the best vinegar for a fortnight. Those who cannot eat fish without the addition of an acid and Cayenne will find this an agreeable relish.

CAYENNE PEPPER.—This may be made of the Long Red Capsicum, but Chilies are much superior in flavour, and are, therefore, to be preferred. Take any number of Chilies, remove the stalks, and put the pods into a colander, in which set them before the fire, and dry them as soon as possible without scorching them. When dry put them into a mortar, with one-fourth their weight of salt, and pound and rub them till they are as fine as possible. Then keep it in well-stopped bottles. Be careful not to agitate too much in pounding it, as the dust may fly to the eyes.

ESSENCE OF CAYENNE.—Put half an ounce of Cayenne pepper into half a pint of brandy or wine; let it steep for a fortnight, and then pour off the clear liquor. This is nearly equal to fresh Chili juice.—ROGER ASHPOLE.

QUERIES AND ANSWERS.

GARDENING.

SUCCESSION OF FLOWERS IN WINTER.

"A Novice, wishing to have a continual supply of flowers in pots for the drawing-room during the winter, would be much obliged for a few hints; but they must be simple flowers and easily grown, as there is no green or hothouse to raise them in, merely a pit, such as is used for raising cuttings of Verbenas, &c. Will you also kindly mention when they should be sown or planted, how treated, and when they will blossom? A Novice has always entrusted this charge to a gardener, but has never had any success; a few Crocuses and Hyacinths being the only flowers she has been able to obtain, and these not coming into bloom until March or April. A small display about December would be worth double to any later ones, as the garden then begins to contribute a few wherewith to deck and adorn the room."

[With the assistance of such a pit as you mention, it will

be difficult to forward many plants into bloom, but much may be done with hardier plants, and making part of your pit into a sweet hotbed. For instance, *Hyacinths*, *Tulips*, &c., potted as soon as you could get the bulbs of the first, one in a four-inch pot, and three *Tulips* and one strong *Narcissus* in the same sized pot, using light, sandy loam, and placed on a bed, and covered with ashes for several inches, would be fit to take out, the pots being full of roots in six weeks, and placed in a hotbed they would produce flowers about the middle and end of December. *Wall-flowers* sown in the spring, or struck early and potted off, would be coming into bloom in windows in December. *Chrysanthemums* would furnish a fine show in November, and the points of shoots layered into small pots now would furnish nice little plants for the stage in the drawing-room and window in December. *Mignonette*, sown in pots in July, would also be fine during the months of November, December, &c. Many bedding plants would also be serviceable. The double variety of *Chrysanthemum annuum*, bright orange, struck after Midsummer, would yield nice flowering little plants all the winter. The same may be said of *Ageratums*, though there is nothing attractive in the scent of either. *Scarlet Geraniums* struck in spring, kept from flowering during the summer, and allowed to grow from November, will bloom most of the winter. All the *Unique Geraniums* are continual bloomers if heat enough is given. A small plant in spring, shifted into a six inch pot, and most of the flower-buds removed in summer, will be a mass of buds in November, and it only requires heat and a fair amount of sunshine to open them. *Myrtles*, though not in bloom, will be green. The variegated *Coronilla glauca* will be almost as gay as a flower. The common *Coronilla*, if at all well used, will produce its flowers through the whole of the winter months. *Cinerarias*, shifted as early as July, will be ready to bloom from November to February. *Chinese Primroses*, crimson and white, sown in March, will be ready to bloom from November to April. *Cytisus Atlanea* and others will produce their yellow flowers through the whole of the winter. *Fuchsia serratifolia*, *cordifolia*, and others, will bloom all the winter. *Camellias*, set in the pit to ripen and set their buds in summer, will bloom in the window after the end of November. Many bulbs, such as those mentioned at page 273, will come in for the same purpose. *Shrubby Calceolarias*, cut down about Midsummer, will generally be in full bloom towards November. In a dryish house we have thus had their yellow blossoms all the winter. The subject has already occupied considerable attention, and lists have been given to suit every month, or we are much mistaken; but we may think over the matter again ere long. In the meantime, take the above as hints. In addition, we may mention *Cyclamens* that commence to grow early, and *Chinese Roses* of all kinds that have been pruned back pretty freely in July.]

MELON PITS AND THEIR FAILURES.

"I should feel much obliged if you could give me some explanation of the cause of a failure in my Melons this season, from the following details:—They have been grown on dung-beds in the ordinary way, and progressed most luxuriantly, setting a very good crop of fruit, which continued to go on favourably till it had almost or entirely attained its full size. Just then, when looking for its ripening, every fruit cracked, and out of three frames I failed in obtaining one of the early-set fruit. Since then, I have had plenty of fruit set on the late laterals, but all small. Some of these, I think, will ripen if I can secure sufficient heat by linings. My soil, although not altogether of so close a texture as Melons like, was, nevertheless, good, and fresh from a light pasture. I use manure-water pretty freely during the swelling of the fruit, and, although I discontinued all watering when I saw it had attained something like its full size, yet the plants continued to grow luxuriantly. I suspected that the cracking was owing to the manure-water, or to the roots of the Melons getting into the dung of the bed. Do you think the bed should have been covered with slates before putting on the soil? or would thick turves be a better plan for preventing the roots penetrating to the dung? I intend erecting a couple of brick pigeon-holed pits, on which to place my Melon frames next year, filling

the space under the bed *loosely* with fermenting dung at starting, so that when it sinks there will be a chamber between it and the soil for the heat from the linings. I intend the bed to rest on boards, supported by joists resting on the front and back walls. There will be openings between the boards, which will be covered with rubble; this, again, with turves, and the soil on these. What do you think of it? Meanwhile, I shall feel obliged for information on the case given above. I have got a shoot on a plant of *Commander-in-Chief* Geranium, a variegated sport, such as Mr. Beaton lately wrote about. One leaf is entirely white, the others having green centres, well and broadly margined with white. I have, according to Mr. B.'s directions, cut all the rest of the plant away.—J. P. M."

[The mode you propose for your Melons is an excellent one. We like about eighteen inches in depth of soil for growing Melons in, and in most cases a width of eighteen inches or two feet would be sufficient. Hence the success when growing them in large pots. A grossness of habit is produced by having too much feeding room. We attribute your disaster to the manure-watering and the dull weather at the time. The plants were forced to absorb more than they could evaporate. We lost two or three nice fruit from the same cause. A very opposite cause will also make the fruit crack before they are ripe. After a few dull days the weather comes remarkably bright, and the Melons are set in pots and exposed to the influence of the sun. The change is so rapid, that the fruit cannot meet it, and the heat and light together expand and crack it. To prevent it in this case, the fruit should be shaded with gauze paper. To prevent it in the other case, the waterings that are necessary should be given to the roots, and the surface soil be kept dry.

We have had dozens of such white shoots on *Commander-in-Chief* especially, and some others. Mr. Beaton's mode of preserving them is the best, as they always strike with difficulty, and easily damp off when struck. We had several at one time, but we have given over troubling the poor blanched things, as several of them together, being of a sickly white, were enough to give one the blues for a week to look at them. That is our impression. You may think otherwise, and therefore cannot do better than follow out Mr. Beaton's directions, and cut the rest of the plant away. As to the others with green centres and margined with white, each and all of these are valuable, and more valuable still if in anything superior to *Flower of the Day*, *Mountain of Light*, *Alma*, &c.]

CUCUMBER PITS BUILT WITH OILY LIME.

"I wrote to you near twelve months since for advice on my unsuccessful Cucumber pit. I altered it according to your directions, and with much trouble I have had a moderate crop of Cucumbers, but the air being so bad from the flue, I have been obliged to make up the ventilators and every crevice from the air chamber, which is a great disadvantage to me. It has now been at work two seasons, and the smell is as bad as ever. I have lately learned that the flue and all the inner walls are built with *buffer's lime*, having a deal of train oil in it. You know what I mean by lime from the *buffer's* shops. Do you think this kind of mortar is the cause of the bad air? if not, what can it be? As soon as the flue gets warm the smell is bad.—T. W. B."

[We do not see how you will ever be able to admit any air from your chamber in these circumstances. It will be years before all the oil is given off, and while it lasts you will have the unpleasant scent. You said nothing of this train oil, so far as we recollect, last year. If you want heat from the chamber for the atmosphere, you had better rebuild the flue, or, what would be better still, have a small boiler on the top of the furnace for top heat, and keep the chamber for bottom heat. A small boiler and a wooden tank like a beer cooler, some three or four inches deep, would supply you with both bottom and top heat if the tank was covered with slate, or the tank could be of brick and cement, and covered with slates. So long as the oil remains in your present flue you will have trouble with it; and encasing it over even with a good coating of plaster would hardly be sufficient to prevent the oil and the smell oozing out, though the evil would be mitigated.]

HEATING A GREENHOUSE FROM A KITCHEN FIRE.

"Early this year I built a greenhouse twenty-three feet by fourteen feet, about seven feet from the floor to the glass at front, and about thirteen feet six inches high at the back. When glazed, my next consideration was, How am I to heat it? Some of my friends said Mr. W. would do it as well as anybody. I spoke to him, and he proposed three-inch flow-pipes, and, of course, three-inch return-pipes. I told him almost all my acquaintances were opposed to small pipes, but he was sure they would be better than the other. The house stands south east. The sun is right opposite at ten o'clock. One end of it abuts against the gable end of my dwelling; the other is glass. I have a glass partition in the middle, with a door, making the house into two. I have also stop-taps in the middle, to confine my heat to the compartment next my dwelling, where I have two Vines and a few other things that require a little heat. In the other I keep my Geraniums, Fuchsias, &c.

"From the first, I have been desirous of heating from a fire-back boiler, in order to save the expense of a second fire. Economy is an important consideration with me, as I am but a working man, and the greenhouse nothing more than a source of amusement and pleasure. I was told that it would answer. A model was made for a boiler. It is about one foot six inches long, twelve inches deep outside, nine inches broad at bottom, and six inches broad at top. It stands brick on edge from the grate-bottom of the fire-place, with a flue behind, and a damper to regulate the heat; but somehow or other I do not get heat enough; either the boiler, or the pipes, or both are to blame. Some say the pipes are too small; some that such a boiler will not do for such a place with such small pipes; others say the boiler will do with four-inch pipes and a warm-water cistern. The water has to travel about seventy-seven feet. The pipe starts from the boiler five feet from the front of the house, then along the front, then the end, back again on the end, the front, and the end again to the boiler, which is a long way for the water to travel in such a small body, and keep hot. One person says it will require high-pressure heat to work such pipes. Mr. W., in his turn, says, he is sure they will answer ten times better than large pipes; there is less water to heat, and the pipes throw heat off sooner. I have not paid Mr. W. for the pipes yet, and I should be sorry to throw them upon his hands after his trouble. I have thought if we could have another sort of boiler to heat quicker with the same fire, say with tubes or some other way (for our fire is only a cottage fire), so as to keep all safe in ordinary cold weather, and set the boiler either in the cellar kitchen, or dig three or four feet down in the greenhouse, and make a hole through the gable end, so as to have the boiler in the greenhouse, and the fire in the kitchen. We could also have a flue, or a flue without the boiler; but if a boiler, then connect the pipes, and in severe weather work the two boilers together. But I am told they would not work; the water from the boiler furthest from the pipes would pass through the boiler betwixt the pipes, and it not making its circuit through the house.

"The greatest simplicity must be kept in view, as my wife has to attend to the firing during the day, the distance of my employment from home preventing me from taking any part except at night. I am very wishful to use the house fire for greenhouse purposes, it is so very convenient, and gives no trouble, and can keep a little heat in one house to get anything forward without the least trouble, when heat is not wanted in the other.—JOHN BURROW."

[We can hardly make out your case; but you must write again if we do not meet it.]

1. In large kitchen fireplaces the heat from the boiler behind it, to heat a house, can often be used very economically, as, from the quantity of fuel used, the water is seldom cool, and enough of heat, or nearly so, can be thrown into the glass house in the evening to keep it safe for the night. We presume your boiler is one of the common sort, placed at the back and end of a fireplace, with the difference that you have a flue all round it. We presume, also, that when you have a fire at night, you have some contrivance in the way of a door or damper in front, so that the fire then shall act chiefly on the boiler, instead of

heating, as it would do unnecessarily, the living-room, if the fire was burning in the open grate. You do not say what heat you can obtain in your boiler; but if you can easily heat that to near or quite to the boiling point, there can be no difficulty in heating your houses if you can keep up the heat in your boiler, if the pipes, &c., are as they ought to be.

2. You have not said whether your boiler opens with a lid at the top, and is there supplied with water, or has a close top, and is fed from a cistern at a higher level by means of a communicating pipe. This will make much difference as to the way in which the pipes must be placed. You would see a description by our coadjutor, Mr. Robson, the other week, of the first mode of circulating the water on a level from the boiler to a cistern, and returning from the cistern to the boiler. Now, if your boiler has an open lid, you cannot do better than take your upper pipes on a level to a cistern at the farther extremity, and from thence return to near the bottom of the boiler. If you have not a cistern there, have at least an open pipe, to prevent any accumulation of air. We think there must be something amiss in the placing of your pipes if they do not get hot. If your boiler has a close top, and is fed by a connecting pipe at some height, then your flow-pipes may rise from the boiler to the farther extremity, provided the highest point is lower than the supply-cistern, and at that highest point an air-pipe is fixed, to prevent any air accumulating; for if ever air gets fixed between two columns of water, you may as well attempt to make the water pass through a solid block of marble. For such small pipes as you have this last plan would answer best, as the pressure would cause a quicker circulation, and the air-pipe at the highest point would prevent air accumulating.

3. Mr. W. is right as to water in small pipes getting more quickly heated than in large ones, just as a one-gallon kettle is more quickly heated by a similar amount of fuel than a five-gallon kettle would be; and this quick heating is of importance where sudden heats to counteract sudden frost, as in greenhouses, are required; but for such purposes as Vineries the sudden heat is of less consequence, as a continuous heat is more necessary; and pipes that, from their size and the limited supply of water in the boiler, are easily heated, are just as easily cooled whenever the fuel fails to burn. We may be prejudiced, but unless in extreme cases, and where a high pressure must be used, we would never adopt one-inch pipes; in ordinary circumstances never less than three inches, as, when less than that, much of the force of the circulation is impeded by friction against the sides of the pipes. An objection against small pipes, even when made very hot by pressure, is, that the extra heat has an injurious influence on the character of the atmosphere. Had we piping enough to give the requisite heat, we would rather never see the water hotter than 160° to 170°. Much of the unpleasant feeling in hothouses arises from the air next the heating medium being scorched and burned.

4. In a house fourteen feet wide, and supposing the front to be partly if not wholly glass, we do not consider that three one-inch pipes, or rather, six one-inch pipes, would present enough of heating surface to maintain a high temperature unless they were made very hot; but if they did well we should deem them sufficient to keep out frost, unless in extreme cases, when part of the glass would be covered. The covering, even of the front glass, would make a great difference on a frosty night, and soon save the covering in fuel, while the plants would be healthier by the pipes not being made extra hot.

5. A small tubular boiler, or a saddle-backed one, would easily heat such a house, and it could be so arranged as to work in unison with, or separate from, the present one; but we could not well advise on the position of such a boiler unless we either saw the place or had accurate drawings. If you ever resolved on having such a boiler, we think you would only make the matter intricate by working both at once, though there can be no doubt as to the possibility of doing so. If ever you should do so, it would be advisable to take the flue from the furnace through your Vinery part, as that will give you more heat there.

6. Of course, you will not only have stop-cocks at your division, but a connecting pipe between the flows and

returus, so that the first division may be heated independently of the other; and, at the point just before the stop-cock, it will be advisable to insert air-pipes. The smallest will do, say one quarter of an inch in diameter, and standing with its end open a few inches above the pipe. It strikes us that, independently of the small pipes, which are smaller than we like, there is something wrong in that position as respects the boiler, which the foregoing observations may correct. The distance is no great affair, only the return-pipes will be getting cold before they enter the boiler. We should like you to give the whole a fair trial, after what little benefit you may glean from these remarks, before making expensive alterations. If you can heat the boiler and not heat the pipes, there is something wrong in their relative positions. If you can make the pipes hot easily, and yet these do not sufficiently heat your house, then you must have more of them, or substitute four three-inch pipes in their stead. But try it fairly first, and do not part with the idea of heating from your common fire if it will at all answer, as there is economy in the idea; and even at times, when not very cold, a little heat in the house from such a boiler will keep the plants healthier, by enabling you to give more air, when the expense of the fuel would prevent you lighting a fire on purpose. In such a case as yours we recommended two pieces of iron, one to go in front of the boiler, fitting into the grate, and standing up six or eight inches from the boiler; a similar piece was laid across, resting on this upright piece and the top of the boiler; and this, at night, confined the fuel round the boiler, something similar to a furnace. Before the plates were made, our friend told us he used two old shovels for the purpose. We shall be anxious to know that your boiler from the house fire has succeeded.]

BRILLANT DE VAISE VERBENA.—MEYENIA ERECTA.

"I have Verbena '*Brillant de Vaise*,' not an *orange-scarlet with white eye*, as Veteran Donald describes it in your No. of 12th August, 1856, but of a *brilliant crimson*, a perfect gem in its way. I got my plant from France, and I want to know whether I have it under a wrong name, or whether D. B. was wrong in his description of it; so please let me hear. Tell him, also, that he is quite out of his depth in his strictures upon its name. *Brillant de Vase* could not be French at any price, whilst *Brillant de Vaise* may be all right, from the name of the place where it was probably raised.

"Please give us a stave on *Meyenia erecta*; it is the best importation that has appeared this long while. If you don't, I must; that's all. I should feel much obliged if you could get a few good articles in your journal on '*Aquaria*;' and, *en attendant*, you would confer a special favour on me if you would find out whether, in manufacturing an aquarium at home, I may employ timber instead of slate for *bottom and ends*. One of the most interesting features of your journal were the accounts of trips to, and reviews of gardens, accompanied by sketches. Would you like some from this part of Her Majesty's dominions?—*ITALICUS*."

[We forwarded the above to Mr. Beaton, and he replies thus:—"In the first place, *Italicus* got a wrong Verbena from France; in the second place, he is wrong in supposing that I did not know orange-scarlet from brilliant crimson; in the third place, he is wrong in saying I am out of my depth about the name of the plant; and, in the fifth place, he is right in saying *Brillant de Vase* is not true French, but no one said it was. The name of the place he writes from, Ballymahon, is not true Irish—what of that? Dublin is not true Irish, nor a translation of its true Irish name; and the name of every third 'place' in Ireland is no more than a mongrel corruption of a once purer language than either French or English. Dog-Latin is not a true language, nor is it literally translated when it is true in nine cases out of ten, and in adding to it we are not required to give the equivalents from the originals which we compound or translate; but to do just as they did with Ballymahon, Balmoral, Dublin, Dunedin, and all such mongrels as Benlomon, Benevis, and Benmuckdine, which Moore, Byron, and Scott accepted as true 'at any price.'"

Of *Meyenia erecta* we have given a very full account twice,

and there is nothing yet to add to our account except that a friend thinks it will make an excellent plant on a mixed border during the summer, and that he put out one this season to try. If you have any further information about it we shall be obliged by its communication, as we shall also with garden gossip from your part of Her Majesty's dominions.]

The following from the Verbena in question is a difficult appeal for Mr. Beaton to answer:—

"BRILLANT DE VAISE versus BRILLIANT DE VASE.

"Mr. Beaton, in your last month's number, page 346, has made a little slip of the pen in the first of his 'whole chapter of corrections.' He has taken the wrong 'i' out of my name. He couldn't mean to say that '*there is not such a word as Vaise in the French language*.' He surely meant to say that there is not such a word as '*brilliant*.' If so, he is quite right. '*Vaise*' is French. '*Brilliant*' is English. '*Vaise*' is the name of a town, or rather, a suburb of Lyons. '*Vase*' means '*pot*.' I know a man named Pot. Mr. Beaton may know a French Pot—a Monsieur Vase—and on the strength of such acquaintance may mean to imply that I am '*Pot's Brilliant*;' but, if this be the case, he must omit the second *i* in Brilliant before he puts it into French. If, however, his acquaintance should be limited to the various *substantive* members of the Vase family—two-handled, one-handled, no-handled, of night or of day—will he not allow of the introduction of an article into his amendment, and make me '*Brillant d'un Vase*,' rather than insult me by saying that I am '*shining of pot*,' or '*pot brilliant*?' Mr. Beaton mustn't be too hard on '*the slang of fellows who bud Roses, &c., without a shoe or stocking on*,' lest, perchance, he should sometimes find his own well-shod foot '*in the wrong boot*.' If he should be unkind enough to persist in the assertion that my surname is not a word, I must retaliate by giving to the world '*a whole chapter*' of corrections of your English names of plants. Thus—*Beauté of Chestnut*. All the English florists write this name *Beauty of Chestnut*. '*There is not such a word as* 'Chestnut in the English Dictionary. '*It may be the slang of fellows*,' &c. It ought to be *Chestnut*. It's quite a parallel case.—Your injured, BRILLANT DE VAISE."

HARDY WATER-PLANTS.

"A. E. M. has a tank, shape circular, eight feet across, the water twenty inches deep, supplied through a jet from a cistern filled either with rain water or spring water pumped up and allowed to remain several hours in the sun before being turned on. The inside of the tank is cemented, and covered, both bottom and sides, with pieces of pudding-stone. What water plants will be likely to thrive in it? and will they require to be planted in mould in a basket or pot, and sunk? Though in Jersey, the situation is high and rather exposed, particularly to the east."

[The best plan would be to have six inches of strong, loamy soil laid all over the bottom of a tank of this size. The old *Calla Ethiopica* is the first plant we would put into this tank, and *Aponogeton distachyon* next. Both are from the Cape, but have stood out in ponds in many parts of Scotland. Our own Buck-bean (*Menyanthes trifoliata*), our flowering Rush (*Butomus umbellatus*), and the yellow and white Water-lilies (*Nuphar lutea* and *Nymphaea alba*), are the best, and one of each would soon fill your tank.]

PETUNIA IMPERIALIS.

"Has *Petunia imperialis* answered as a bedding plant? In my own instance it has hitherto completely failed, for, with all care to avoid the excessive luxuriance of its gross habit, it has given me a dense mass of leaves, with scarcely a single flower. This, however, may still arise from some fault in my management, for a plant that bore such high certificates on its first appearance can hardly merit the condemnation now so generally passed upon it as a bedder. For pot-culture and the early decoration of a greenhouse it may very possibly be well suited; but in its character as a bedding plant it certainly seems to have been unsuccessful.—W., Cornwall."

[Exactly so; but it has seeded, and seedlings from it are up, from which we shall in time have double flowers of all the colours to pay for the first disappointment.]

BOTANICAL NOTES ON THE MILDEW OF THE VINE AND HOP.

By the Rev. M. J. BERKELEY, M.A., F.L.S.

THE genus *Oidium*, a name, at the present moment, far too familiar in every country where the Vine forms an important object of cultivation, contains a heterogeneous mass of species of very various affinity, agreeing only in the circumstance of the spores, or sometimes merely of the component cells of certain threads of the mycelium being arranged end to end so as to form little necklaces. Amongst these there is a peculiar group, consisting of such species as *O. leucoconium*, *Tuckeri*, &c., distinguished by their mealy appearance, though not constantly of a pure white, and developed on the green parts of vegetables. In many cases this mycelium creeps amongst the large intercellular spaces of the under surface of leaves, the moniliferous threads making their appearance through the stomata; but this is by no means constant or essential, for, as in the Grape mildew, though often exhibiting such a mode of growth, they are produced with equal luxuriance on parts of the plant where there are either very few or no stomata.

Another circumstance connected with such species is, that in a variety of cases they are the certain forerunners of different species of Erysiphe. There are, indeed, some of these species which have never been observed to be accompanied or succeeded by an Erysiphe, and it is possible that such may be autonomous, but in the majority of instances, of which the Hop mildew is an example, the Erysiphe most certainly and constantly follows or attends the *Oidium*.

Under such circumstances it was natural that a question should arise as to the character of this connection, and accordingly it has been warmly contended on the one hand that the *Oidium* and Erysiphe are perfectly independent, while on the other the *Oidium* is regarded as the mere mycelium of the Erysiphe, and it has even been hinted, though without any sufficient grounds, that the deciduous joints of its erect threads may possibly be of sexual importance. As a step towards the solution of this question, some observations, accompanied by a figure, were published by the author of this memoir in the *Gardeners' Chronicle*, 1851, p. 227, tending to show that in *Erysiphe communis*, as produced upon the Garden Pen, the sporangia really arose from the decumbent threads of the *Oidium*, and that in such a way as not to make it probable that this is a case of mere parasitical growth, but that the myceloid threads of the *Oidium* actually give birth to the Erysiphe. The illustration, if correct, is clearly of great importance; but inasmuch as it has not been received with perfect confidence, I am happy to give the annexed figure from the observations of Dr. Plomley, made perfectly independent of my own, which completely confirms the views I had taken of the matter, and sets it almost beyond doubt (Fig. 1).

The question was in this state when, in the early part of 1851, a drawing made the previous year by Dr. Plomley, illustrative of the Hop mildew, was hung up in the Crystal



Fig. 1.—*Erysiphe communis* from Hop leaves, showing the origin of the sporangia from the decumbent threads of the mycelium. From a sketch by Dr. Plomley.



Fig. 3. a.—Pyrenidia and inclosed spores from the Erysiphe of *Convolvulus arvensis*.
b. Pyrenidia from that of *Trifolium pratense*. Both from sketches by Mr. Broome.

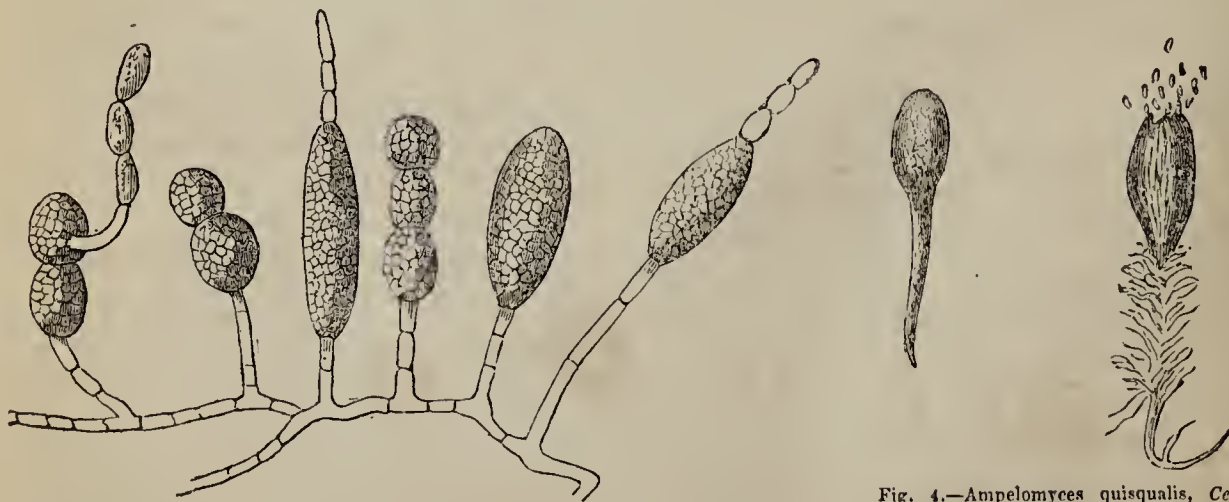


Fig. 2.—Pyrenidia produced on the moniliform threads of the *Oidium* of the Hop leaf. Dr. Plomley.

Fig. 4.—*Ampelomyces quisqualis*, Cesati, sketched by Mr. Broome.

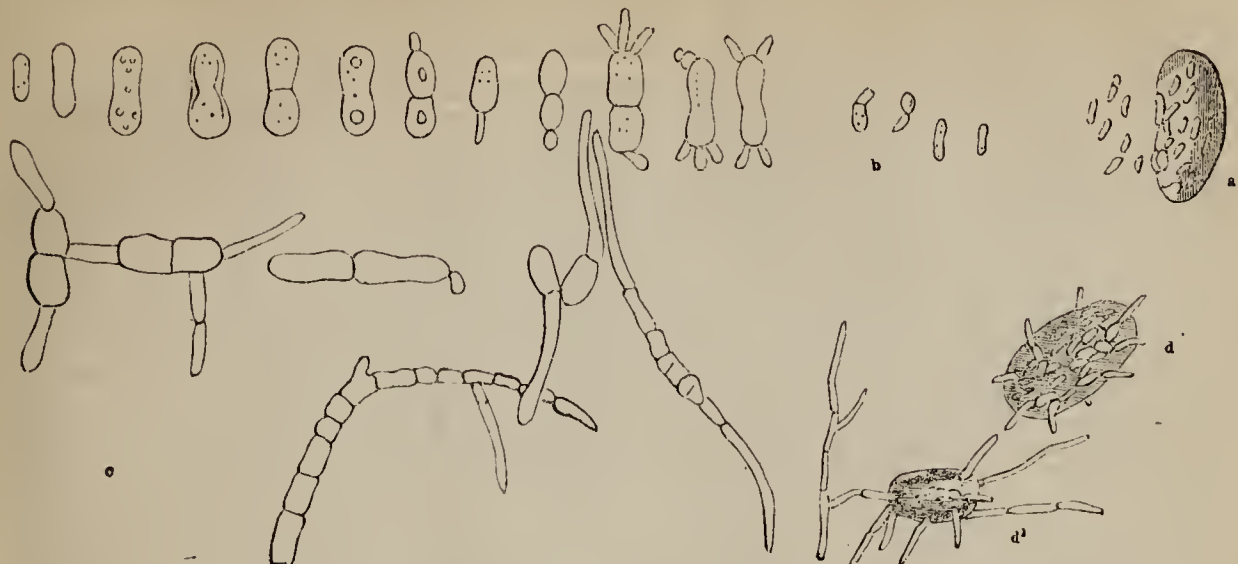


Fig. 5.—Germinal contents of utricles in the Vine mildew. *a*. One of the utricles ruptured. *b*. Granule beginning to germinate. *c*. Various stages of germination more highly magnified. The joints marked 1, 1, are the two cells into which the granule was originally divided. *d*. Granules germinating within the utricle. *d*¹. Granules from Hop mildew. A similar series of sketches was prepared by Dr. Plomley from the germination of the contents of the utricles of the Hop mildew, but they have been omitted with one exception, as altogether similar to those of the Vine mildew.

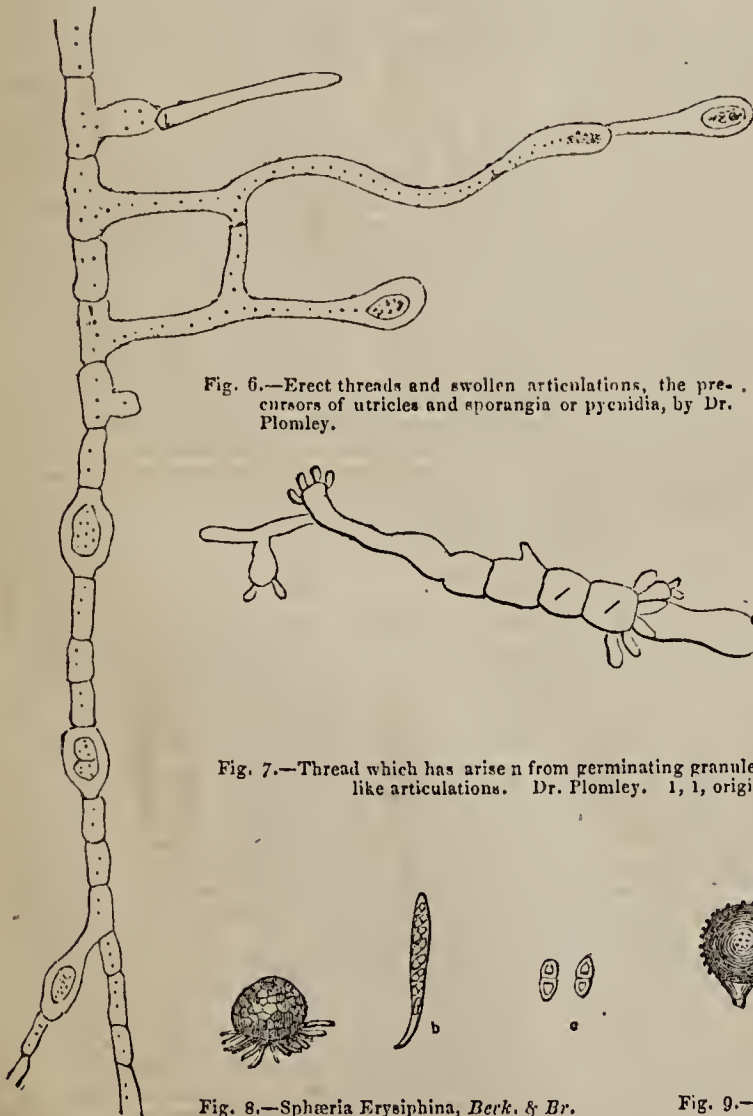


Fig. 6.—Erect threads and swollen articulations, the precursors of utricles and sporangia or pycnidia, by Dr. Plomley.

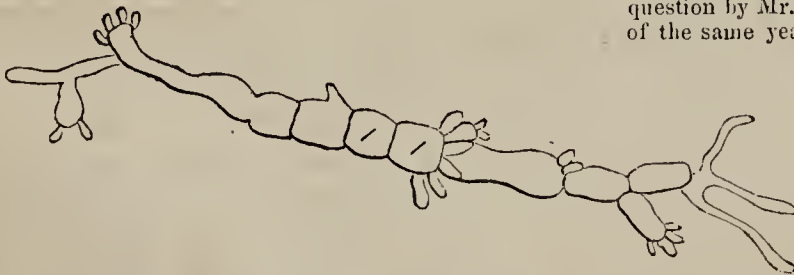


Fig. 7.—Thread which has arisen from germinating granules producing little bud-like articulations. Dr. Plomley. 1, 1, original spore.

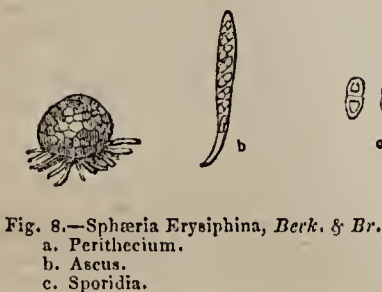


Fig. 8.—*Sphaeria Erysiphina*, Berk. & Br.
a. Perithecium.
b. Ascus.
c. Sporidia.



Fig. 9.—*Conisporium commilitans*, Berk. & Br.

Palace, in which a transformation of the articulations of the moniliform threads of the *Oidium*, into what were then supposed to be true sporangia, was clearly represented (Fig. 2). This transformation was precisely like that which so commonly takes place in the genus *Antennaria*, of which a few words may be said towards the close of the paper. It was not then matter of surprise so far, though it might seem *a priori* scarcely probable that the sporangia should be formed in two different ways, and when the subject was mentioned in the *Gardeners' Chronicle*, 1851, p. 467, the interest attached to it was pointed out, though there remained some difficulty about the two modes of the origination of sporangia, for the distinction between those organs and others presently to be mentioned was not at that time ascertained. The correctness of the whole was indeed called in question by Mr. F. J. Graham, in the number of the same year for Aug. 9, p. 502; but so

many unexpected circumstances arise in the study of natural history, that it is seldom safe to reject altogether any evidence that may be brought forward, because it may at first appear anomalous, however wise it may be to rest in a position of more or less philosophic doubt. In point of fact, such seeming anomalies often indicate latent truths, and when cleared up throw light in the most unlooked-for manner on matters which were before involved in obscurity. Recent observations have, indeed, shown that Dr. Plomley's illustration was really of much importance, and the anomalous points have been, for the most part, elucidated by the discovery that the bodies into which

the articulations were transformed were not precisely of the same nature as the sporangia, but exhibiting, independently of the mere conidia of the *Oidium*, a second form of fruit, as in many other fungi. On the 5th of September of the following year (1852), a paper was read before the Royal Academy of Georgofili of Florence by Professor Amici, in which he reports the discovery of bodies in the Grape mildew, of precisely the same nature and mode of production as those in Dr. Plomley's figure. It will be found from Prof. Amici's memoir, that he does not allow the above mentioned connection between the *Erysiphe* and *Oidium*, nor indeed, at present, have true ascigerous sporangia been detected in the Grape mildew. These bodies were not, however, found merely in the Grape *Oidium*. Prof. Amici informs us in his memoir, that they had occurred in the mildew of *Convolvulus arvensis* accompanying an *Erysiphe*; and I have lately received a very kind letter, in which he sends specimens of *Oidia* bearing transformed cells, not only in the Vine and *Convolvulus*, but also on the common Gourd, the Hop, *Plantago major*, and *Trifolium pratense* (Fig. 3). He also found them on *Artemisia campestris*, but I have seen no specimen. Dr. Plomley has detected them abundantly in the *Oidium* of the Rose. I had, indeed, previously seen specimens of the transformed points in the Vine mildew, for Cesati's *Ampelomyces quisqualis*, Rabenhorst, n. 1669, b. published in 1852, is undoubtedly the same thing, though the bodies contained in the cells are rather smaller than in Amici's specimens (Fig. 4).

This, however, is not the only name which has been imposed upon these bodies, as though it were still the fate of fungi to have generic importance ascribed not only to their mycelia, but even to their separate organs; for Ehrenberg, who received his specimens from Amici himself, gave them the name of *Circinobolus florentinus*; and Riess in *Hedwigia*, 1853, p. 23, tab. III. fig. 2, d, e, f. has given to similar bodies in *Erysiphe lamprocarpa*, the name of *Byssocystis textilis*.

In the early part of 1853, Tulasne published in the *Botanische Zeitung* some admirable observations on the genus, without, however, having had the advantage of seeing any of Amici's specimens or those published by Rabenhorst. His remarks refer principally to two species belonging to the genera *Ucinula* and *Phylactinia*, of L  veille, in which he found the bodies in question, to which he gave the name of pycnidia, as being identical in function and essential structure to those which he had before so characterised in Lichens (*Mem.* p. 108), but differing from those observed by Amici, and from all that I have myself examined, in resembling exactly the true sporangia, and in being furnished with similar appendages. In no single instance has this been the case in the species I have had the opportunity of observing, and though in some cases the bodies were globose, this was not by any means their normal form, far the greater part being pointed above. Like M. Tulasne, neither myself nor Mr. Broome have ever seen the pycnidia surmounted by a necklace of utricles, but in every case rising immediately from the mycelium, very much as represented in the figure in the *Hedwigia* quoted above, but frequently also from one of the swollen cells of the decumbent mycelium. There is, however, no reason to doubt that such is the case, for the practised eye of Amici could scarcely be deceived; and Dr. Plomley's figures, made two years before those of Amici, and verified by the numerous observations of 1853, are altogether confirmatory of the fact. In one or two instances in Cesati's specimens (Fig. 4, b.), Mr. Broome found a few delicate threads at the base of one of the pycnidia attached to its walls, but by no means emulating those of the sporangia. The bodies contained in the pycnidia do not differ much in size in the different species. In the Grape mildew they are (at least in Amici's specimens)* $\cdot 0004$ of an inch long, in that of the Gourd, *Plantago major*, the Hop, and *Convolvulus arvensis*, $\cdot 0003$, and in *Trifolium pratense* they vary from $\cdot 0002$ to $\cdot 0004$.

No one has at present seen these bodies germinate, unless, indeed, as Amici suspects, they are what Professor Pietro Savi "saw vegetate under the microscope, believing

them to have issued by a regular longitudinal dehiscence from the utricles of the moniliform filaments which had been supposed to be sporangia." Now it does not seem very probable that Savi could have made such a mistake, as the pycnidia are differently coloured, the colour, indeed, often extending down the peduncle; and the observations which I have now to record resting entirely upon the repeated and long-continued examination of Dr. Plomley, confirm what is advanced by the Italian Professor. Both in the Hop and Vine mildew he found that the joints of the moniliform threads, though not transformed into pycnidia, contained a number of distinct bodies, and not merely a granular endochrome. In both cases their number appeared to be normally about 300, but in the Hop mildew occasionally they did not exceed 50. In both cases alike these bodies germinated very readily when kept moist between two slips of glass (Fig. 5), in one instance even producing an approach to fertile threads and swellings of the articulations, the forerunners, as Dr. Plomley believed, of true (Fig. 6) sporangia or pycnidia, it is uncertain which, as either may arise from the decumbent threads. But not only did they germinate when separated from the utricles either by pressure or spontaneous rupture, but even where no rupture in the walls of the mother-cell took place they germinated *in situ*, pushing out the shoots of mycelium through the walls. In many instances, little germs were produced from the cells, which call to remembrance the observations which Tulasne has made on the germinating threads of *Puccinia* (Fig. 7), though it perhaps may not be certain that they are of precisely the same relative importance. In many cases the fallen utricles adhered together in considerable masses, germinating and producing an inextricable plexus of spores, myceloid threads, &c., and so giving rise to the curdy appearance which is often observable in Hop mildew, and, indeed, in most allied forms of mildew. These facts are very curious, for the utricles themselves have often been observed in a state of germination, as figured by Amici and by Dr. Plomley himself in the Grape mildew, but in these lower productions, wherever a complete cell is produced perfectly individualised, there seems a power of reproduction, and we know not how far the notion of Turpin may be verified, that it may some day be possible to raise a Ph  nogam from a single cell. Whether this may be true or not practically, some cases of grafting, as the well-known one of the so-called Scarlet Labrum, tend to show that it is so theoretically. It will not be superfluous to notice further, that in the Hop mildew Mr. Broome has found on the same mycelium as the *Erysiphe*, but on the upper surface of the leaves only, a little brown *Sph  ria* (Fig. 8), intermediate in size between the sporangia and pycnidia. The perithecia contained perfect unisepate sporidia $\cdot 0005$ inch in length, whereas the sporidia of the accompanying *Erysiphe* were about $\cdot 0013$. It is singular that a parasite so closely resembling the *Erysiphe* in form and colour, not to mention other points, should exist in such a situation.

Are we, then, after the facts detailed above and elsewhere, to conclude that these *Oidia* are really states of so many species of *Erysiphe*? This question seems to me to admit only of one answer, and that affirmative; for though it may be very true that one cannot see the sporangia utricles and pycnidia upon one and the same thread, and it is impossible to prove the case by reproduction from the spores, as in that of diccious plants, the body of evidence seems so strong and closely connected as to be irresistible. It is true that the real sporangia of the Vine mildew have not yet been observed, but considering the identity of their pycnidia with those of known species of *Erysiphe*, it seems very difficult to suppose that they are essentially different. The mildew of the Peach may be observed for years without finding sporangia, except at a very late period on the branches; and that of the Rose, and of *Lycium barbarum*, as noticed by Tulasne, frequently do not proceed beyond the mucoroid condition. We do not doubt, therefore, that at some future period the true sporangia may be found, and we trust that the little parasite which has been of such unlooked-for importance may still preserve the specific name originally assigned to it, in honour of the very meritorious cultivator who first observed it, and did not cease to study its habits till he had discovered the proper remedy. It may still,

* In Cesati's specimen the contents of the pycnidia did not exceed $\cdot 0003$ in.

therefore, be named *Erysiphe Tuckeri*, if the name of *Oidium Tuckeri* must perish.

It is a curious fact that in abundant specimens received from the Upper and Lower Corgo and Douro, through the kindness of Messrs. Martiniez and Gassiot, and in specimens of diseased Grapes from Madeira, forwarded in 1852 to Sir W. J. Hooker, by C. H. C. Plowden, Esq. (see *Gardeners' Chronicle*, 1853, p. 547; and 1852, p. 579), not a single pycnidium appeared amongst the mould, but in their stead very curious bodies, consisting of a large, nearly globose terminal cell, with one or two hyaline cells at the base forming a sort of peduncle. These resemble very closely *Coniosporium Helminthosporii*, Corda, and I have therefore given them the name of *Coniosporium commilitans** (Fig. 9), though I cannot conceal from myself the possibility of their being some other form of fruit, however improbable this may seem. At any rate the matter is well worth attention, and I am content to run the risk of the *tu quoque* reproach of adding a name which may hereafter be found useless, as the very circumstance of assigning a name to any natural production draws more attention to it.

The constant connection of *Antennaria* and *Capnodium*, a genus illustrated on a former occasion at considerable length in this Journal, seems exactly analogous with that of *Oidium* and *Erysiphe*. It appears, however, that though the transformed joints of the *Antennaria* never produce aeci, the perithecia of *Capnodium* are very uncertain as to the nature of their contents. Sometimes they are decidedly ascleigerous, and sometimes as certainly sporiferous. Something, however, more definite may be discovered now that attention has been drawn to such points, and I should be the very last to lose sight of the fact that to M. Tulasne and his brother is due the credit of opening this new field to mycologists and lichenologists.—(*Horticultural Society's Journal*.)

CANNON HALL MUSCAT GRAPE.

I wish to give my mite of information relative to what I have experienced in the growth of the *Cannon Hall* Grape, lately discussed by Mr. T. Appleby, being myself of the same opinion as to its superior merits. I must mention that my noble employer prefers it to all other Grapes on his table, as a light-coloured Grape; and for a black nearly its match in appearance, we grow the *Champion Black Hamburgh*, which I have seen four inches in circumference in the berry, and when ripe it will keep plump and more perfect in the berries than any other *Hamburgh* I know.

However, I must leave the *Champion* for the present, as my object for putting my pen to paper is to give a short detail of my success in setting the bunches of the *Cannon Hall* Grape. I have previously tried many plans to make it set well, having impregnated it with the most free-setting Grapes, such as the common *Hamburgh*. Even then I did not at all succeed as I could have wished; but now I can almost make certain of every bunch being good, without applying artificial pollen of any other variety. Whoever has grown this Grape will have noticed it has a superabundance of flower-pips; therefore it struck me that if I were to thin them out previously to flowering it might effect my purpose. A tedious undertaking it is, for I thin most severely, and by so doing I thought I should throw all the energy there might be in the Vine into the flower-pips left. I have just now some berries on the *Cannon Hall* which will measure four and a half inches in circumference.

So much for the difficulty in surmounting a good setting; nevertheless, even then I am sorry to say there are several other deficiencies still to overcome before we get it perfect. One is the blackish spots appearing sometimes on the berries, which I hope will be, for the future, successfully eradicated under Mr. Acomb's plan, enumerated in page 385 of No. 413, August 26th.

* *Coniosporium commilitans*, Berk. & Br. Sporis magnis obovatis pallidis granulatis, basi uniseptatis, articulo inferiore hyalino, cum pedunculo brevissimo, cylindrico subconfluente.

Spora cervice '0014 ad '0015 unc. long. '0011 lat. I am the rather inclined to suppose the *Coniosporium* autonomous, as both the Madeira and Portuguese specimens were overrun with *Trichothecium* and other parasites. The more nearly allied species of *Coniosporium* are truly parasitic, which is an additional argument in favour of the view I have taken.

I have found another failing to which this noble Grape is liable. It does not keep when at maturity plump in the berries so well as the common *Muscat of Alexandria*, but a more noble looking white Grape, when just ripe, I consider is not in existence. On that account I have been trying to improve it, but have not yet succeeded. As far as I have been successful in my crosses by impregnation, I generally have found in the seedlings the habit or growth of the parent, with the colour or appearance of the produce appertaining to the male or the pollen administered.

I will just give you a short detail of my trials as far as I have gone. I first crossed the *Syrian* with the pollen of the *Cannon Hall*. The habit of the young seedling was robust, with a noble foliage; but, to my great disappointment, the berries turned out not much larger than Peas. However, I am making another trial with the *White Nice*, and have several Vines just now coming on which I expect will fruit next year, and should they turn out well, and fruit then, I shall be most happy to let you know the result.

I have a seedling in fruit just now which promises to be a great bearer, and I think it will be a good late Grape. Its parent is the *Black Damascus*, crossed with the *Black Prince*, with the view of having a free and good-setting, late, well-coloured variety. It has, as I stated before, quite the robust growth of the mother, with every appearance in colour of the *Black Prince*. The bunches are long, and of a sugar-loaf shape; however, I shall send you a bunch for inspection when they are ready.—WM. MELVILLE, *Dahmny Park Gardens*.

LINUM GRANDIFLORUM RUBRUM.

WE have only this moment seen THE COTTAGE GARDENER of July 15th, 1856, and notice the remarks made concerning some seed sent out from our house as the *Linum grandiflorum rubrum*. If we had seen the article before we should have more promptly replied to it. We very much regret that we should have been made the instruments for sending out the seed alluded to, but in transacting so large a business as our own, it is a matter of impossibility to do so without trusting to the respectability of others. We always test the growing qualities of all seeds sent out by us, but we cannot always prove if they are true to name. In the present instance the seed was procured from one of our largest continental houses, and sent out in precisely the same state as received—a principle always adopted by us, to supply every kind of seed as received into the warehouse. It is very seldom that a blunder of this sort happens, as we deal only with continental houses of the highest class. But an error has occurred, and we have replied to all those who have had the seed that we shall be glad to make the *amende honorable*; and we are glad to say, that in every instance our correspondents have been much pleased with the proposition we have made.—WILLIAM E. RENDLE & Co.

[Accidents will happen, but we must add that there is not such a plant as *Linum grandiflorum* RUBRUM known to botanists; and great firms, like Messrs. Rendle & Co.'s, ought to set their faces against such delusions.]

TO CORRESPONDENTS.

ROLLING A LAWN (K. D.).—Roll it both before and after mowing.

BISCUITS (K. D.).—Our correspondent would be obliged by a good, simple receipt for biscuits.

FRUIT CATALOGUE (*A Young Gardener*).—There is no other Catalogue of Fruits than those you mention; that of the Horticultural Society is the most complete; Mr. Hogg's is only of Apples, and of those it is by far the best.

PROPAGATING GERANIUMS FROM LEAVES (*Anne Christie*).—It is not unusual to raise *Gloxinias* and similar plants from leaves, but we have never heard of Geraniums being so raised until Mr. Beaton announced the fact this day fortnight.

RIGHT TO REMOVE PLANTS (*W. Charlton*).—You have no legal right to remove any kind of plant from your garden without your landlord's permission. As soon as planted it becomes part and parcel of the freehold.

LEARNING GARDENING (*Excelsior*).—Your ambition to raise yourself in the world is very commendable. That particular pursuit you seem to wish to follow will require a large amount of patience and perseverance to achieve success. We have written to Mr. Appleby, and requested him to assist you in attaining the first step in the ladder, but do not depend upon him alone. An advertisement in this periodical

would be a good medium to make your wants known. Most likely a premium would be required, and you would have to spend at least three years in a good garden somewhere in the country, and then a year in a London nursery. If you would, during that time, exert your energies, and conduct yourself with propriety, we have no doubt you will obtain at least a comfortable situation as head gardener. Did you compose and write your letter yourself? If you did, we have no fear but you will attain to eminence as a gardener, or, indeed, in any profession, providing you add to your ability a determination to obtain, by diligent study and practice, the knowledge of every branch of horticulture and floriculture. Read over and study Mr. Appleby's papers entitled, "Advice to Young Gardeners."

PLAN FOR HEATING (G. W.).—The lamp would have no perceptible effect. It would not by any possibility exclude frost.

METEOROLOGICAL INSTRUMENTS (J. G.).—We cannot recommend any maker in particular. The best mode is to make personal inquiries of several, and compare their charges.

GRUBS ON PEAR, PLUM, AND CHERRY LEAVES (Stockport).—They are the black, slimy larvae of the Black-winged Saw-Fly (*Tenthredo or Selandria Aethiops*). Dust the leaves well with powdered lime, or syringe them with lime-water.—W.

DISEASED GERANIUM LEAVES (F. A. S.).—Your Geraniums have got what is called the *spot*, and it is bad to get rid of. A damp state of the roots, and a rather moist atmosphere, when there is not sun enough to cause rapid evaporation, are the chief predisposing cause. The opposite course is alike the best remedy and preventive. But we can hold out no prospect of your getting rid of it entirely this season. By cutting the plants down early, allowing them to rest, repotting in sandy soil when the buds have broken, keeping them rather dry and airy in winter, and never giving a drop of manure-water until the flower-trusses show, you may get your plants healthy again; but whether the spot becomes constitutional or not, it frequently comes again on the same plants, season after season. If you had a friend with clean stock, we would advise you to get cuttings, and keep them separate from your own.

NAME OF FERN (G. L.).—No abortive frond came to hand, but we believe your Fern is a single pinna taken from the *Pteris Chinensis*, which is also called *Pteris crenula*.

NAMES OF PLANTS (Eliza).—The shrub is *Lepcesteria formosa*. No. 2. *Nigella Romana*. 3. *Platystemon Californicus*.

NAME OF PELARGONIUM (W. H. Wright).—Your Pelargonium is *Leah*. A very good kind.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

DORCHESTER. Sept. 17th and 18th. Sec., G. J. Andrews, Esq., Dorchester. Entries close Sept. 1st.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs., G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. Nov. 26th and 27th. Sec., E. Trinder, Esq., Cirencester. Entries close Nov. 1st.

LEOMINSTER. Thursday, October 16.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 13, 14, and 15. Hon. Sec. Frank Bottom. Secretary to the Canary Department, Jno. Hetherington, jun., Sneinton.

SOUTH WEST MIDDLESEX. Sept. 30th. At Hampton. Sec., Mr. J. Gotelee, Hounslow.

N.B.—Secretaries will oblige us by sending early copies of their lists.

GETTING UP A POULTRY SHOW.

"I CANNOT answer for the happiness consequent on matrimony," said an old bachelor; "but of this I am sure—that wedding-cake is all the better for keeping."

On this principle we do not follow the same subject week after week; perhaps it is the "better for keeping."

Our last article referred to the diseases of the "getters up" of Poultry Shows; but as we propose to follow every phase of the "mania," and to show that in each there is not only excitement, but pleasure, utility, and positive good, so now we shall treat of exhibitors. Many causes may make exhibitors, and we shall endeavour to point out some of them. We will premise that this malady is more common than that of wishing to be a committee-man, because it is easier of accomplishment, and entails less responsibility.

Mr. M. had kept Bantams for years, and had liked them; he had superintended hatching, rearing, and everything connected with them, but he had never dreamed of showing them, although he knew them to be good. In his innocence, he thought their merits were eclipsed by all others. He attributed his notions of their merits to his own partiality, and when folks said they could not be beaten, he shook his head, called them his pets, talked of the cruelties of Shows, and of the pokes from sticks and umbrellas, and said their value would not be enhanced by a medal or first prize.

A friend was once present when he said so.

"Suppose," said he, "they brought you home a Silver Cup?"

The good man was staggered.

"I own," said he, "I should like a Silver Cup."

"Exhibit them," said the friend.

The owner bit his nail, assumed a thoughtful expression of countenance, and at length said he would think of it.

The friend saw that inoculation had taken place, and, therefore, left on the table an entry-paper for a neighbouring Show. He had judged rightly—the Bantams were sent.

This will bring us to another phase of this malady, or mania, or disease, and it may be well to inquire into the different forms it assumes. We have deferred it, because, in the case we have named, the result is not told, and the promoting cause is twofold. We will now speak of the malady as divided into three. We class them thus—distinction for pets, distinction for self, and positive gain. This may not seem sufficiently varied, but after-chapters will, we think, prove that, at this period of our story, we are sufficiently prolix.

There are natures so kind that it is difficult for them to expend themselves on ordinary objects. We write to please all, and should we by an unhappy word offend any, we *d'arance* humbly beg their forgiveness; but there are certain persons in life, single as regards themselves and human nature and mankind, inasmuch as they are not married; but let our married friends overlook the digression, for their happiness in that state may forgive the little digressions. Those who have not entered into that blessed state have yet within themselves a fund of sympathy for animals, which takes the place of love for human beings, which has never been called into action.

We cannot help digression; but many a married single person grins over the advertisement for the lost pug, who will spend days, nights, and hundreds in search of a peculiar coin or book, the intrinsic worth of which is not the paper on which it is written, or the metal on which it is impressed. Who has not read in "Peter Pindar" of the friend of "Sir Joseph," who, despising his Tulpis, scattered them all in pursuit of the Emperor Butterfly?

This may give some index to the feelings of many who find an outlet for checked or pent-up feelings in loving pets; and that fancy which expends itself on out-door objects we hold to be superior to that which exalts an "in-door," or, as it is sometimes called, "a domestic animal," to the place of a member of the family, and gives a plate, a knife and fork, and a bed to a *roquet*, or the ugliest dog that can be found.

Thank goodness, the pets of which we have to speak are different, and are those that cause health, and a natural *délaissement* among the thousands who read our columns. We know there are all classes and conditions. While this increases our difficulty in pleasing all parties, it also makes us more prolix.

The love for feathered favourites may arise from two causes—either because they minister to the pleasure of children, and, therefore, interest the parent; or, lacking this claim, they interest the bachelor, who has no children, by filling a void in his mind and affections. Is it wonderful that he is interested in their success, or careless of their welfare? We contend he is the best of exhibitors, and in a future paper will carry out our views.

THE ANERLEY PROTESTS OF 1856.

AN article appeared in THE COTTAGE GARDENER a few weeks since, which asserted that the reason the first prize was not awarded to my Brahma chickens was on account of some brown feathers being found in the pen, which some of the committee had in their possession. I beg to state that the chickens had not any feathers of that colour when they left my premises for Anerley; they had not any when the first prize was awarded them at Clifton, nor have they now. They were seen by a celebrated breeder of Brahmas before they were sent to Anerley, and he can assert that they had not any brown feathers at that time. If brown feathers (supposing my birds had any) were a disqualification, why was not a prize withheld last year from a pen of

chickens whose breasts were entirely brown? As I intend keeping the chickens in question, they may be seen at any time by any person.—G. BOTHAM, *Wexham Court*.

SOWERBY BRIDGE POULTRY EXHIBITION.

THE third annual meeting of this Society took place on the 5th instant, and we are glad to find it presented the most marked improvement on the preceding Exhibitions.

Now, to those well conversant in the management of Poultry Exhibitions, the causes that led to so favourable an issue were very apparent. The committee throughout consisted entirely of gentlemen, whose sympathies were not only enlisted to secure its success, but who also esteemed it no derogation of their position among their townsmen, on this occasion, to actually "put a shoulder to the wheel," and push forward their meeting into notoriety; consequently, at the early hour of five o'clock on the day of the Exhibition, we found every member present, and "working" in the exhibition-field, to bring about the result they so happily attained, and which they so richly deserved. Nothing at all was left to dependants; each member fulfilled his self-imposed duties faithfully and efficiently, and the consequence was, there were no grumblers, nor anything left incomplete. How different, by-the-by, to the course pursued by some committees that shall be nameless, where all the laborious duties are supported by one or two of their number, whilst the majority call in, perhaps, once or twice a day to ask how "we" were getting on, and similar observations, denoting that their assistance is confined simply to sanctioning the meeting. Such laxity may profit extremely by a few "early morning lessons" from the committee of Sowerby Bridge, and, no doubt, in all instances, a parallel improvement will be the certain result as to the eventual finances of their meeting. The fowls at Sowerby were well attended, and well provided with green meat also. They were all packed (that were to return by rail) and waiting at the station by six o'clock the same evening the Exhibition closed to the public. Such promptitude must influence the entries for future years most favourably.

From this little digression we proceed to a very concise summary of the fowls themselves. The *Spanish* were very good; the chickens in this variety really excellent, but all the earliest broods bore evident proofs of their sufferings during the severe spring of the present year, and not a few pens were most manifestly the pickings out of various broods, far removed both as to age and general maturity. The *Dorkings* were not equal to what we are now accustomed to meet with. The solitary pen of *white* ones, however, were superior fowls, and were deservedly awarded (though all *Dorkings* competed equally) the second premium. The *Cochins* were, as a whole, an evidently neglected class in this locality. The *Game* were really most deserving, particularly the birds of this year; but it appears to ourselves most desirable that a regulation should be enforced (so late in the season), "that all *Game* cockerels must be dubbed." This would tend much to render the task imposed on the arbitrators less difficult, whilst the public generally would also be better able to form opinions of their relative merits. The *Hamburghs*, it being moulting time, did not realise our wishes. The first prize *Geese* were not only very good specimens, but of a *variety* rarely met with out of North Wales, where they are comparatively abundant, and are making themselves many new friends, from the really excellent quality of their flesh. They are entirely *buff* throughout, very pretty-looking additions to farm poultry, and, we are told, are unusually hardy whilst young. The *Aylesbury Ducks* were far beyond our expectations; but as the avowed object of Poultry Exhibitions is to offer opportunities to breeders to improve their home stock by well-advised purchases, we would, in all friendliness, suggest an improvement in the classes for "*Ducklings*," viz., that a male and two females must compose the pen. At Sowerby Bridge three drakes were all but universal throughout the class, simply from the hope that superiority of size might curry favour with the Judges, but to buyers rendering the purchase anything but popular. This simple alteration of the established rules will, no doubt, another season, be effected. In the class for dishes of eggs (twelve each) all

the eggs were tested by water, and the spoiled ones at once disqualified. The competition here was excellent. The *Pigeons* did not exceed mediocrity.

The Show was kindly permitted on the grounds of John Radcliffe, Esq., of Allen House, and presented an excellent spot for the purpose.

The Judges were Alfred Goodman, Esq., of Gledhow House, near Leeds, and Edward Hewitt, Esq., of Eden Cottage, Spark Brook, Birmingham, whose decisions were, we are happy to say, satisfactory.

ADULT SPANISH FOWLS.—First and Cup, Joseph Tate, Preston. Second, W. Smith, Halifax. Commended—W. Newsome, Heckmondwike. (A superior class.) **Chickens.**—First, William Newsome, Heckmondwike. Second, M. Ridgway, Dewsbury.

ADULT DORKING FOWLS.—First, Joseph Tate, Preston. Second, John Robinson, Garstang. Highly Commended—W. Copple, Prescott. Commended—C. R. Titterton, Birmingham. **Chickens.**—First and Cup, Joseph Tate, Preston. Second, John Robinson, Garstang.

ADULT COCHIN-CHINA.—First, W. Copple, Prescott. Second, William Newsome, Heckmondwike. **Chickens.**—First, John Robinson, Garstang. Second, W. Newsome, Heckmondwike.

ADULT GAME.—First, James Dixon, Bradford. Second, Ephraim Wright, Horton. **Chickens.**—First and Cup, J. Dixon, Bradford. Second, W. Newsome, Heckmondwike. Commended—Ephraim Wright, Horton. (A good class throughout.)

ADULT GOLDEN PHEASANT.—First and Cup, M. H. Broadhead, Holmfirth. Second, James Dixon, Bradford. **Chickens.**—First, James Dixon, Bradford. Second withheld.

ADULT SILVER PHEASANT.—First, Mrs H. Sharp, Bradford. Second, James Dixon, Bradford. **Chickens.**—First, Mrs H. Sharp, Bradford. Second, D. Leeming, Halifax.

ADULT CRITTAPRATT.—First, Mrs H. Sharp, Bradford. Second, James Dixon, Bradford. **Chickens.**—First, James Dixon, Bradford. Second, Mrs H. Sharp, Bradford.

ADULT POLAND.—First, James Dixon, Bradford. **Chickens.**—First and Second, James Dixon, Bradford.

ADULT BANTAM.—First, James Dixon, Bradford. Second, N. Crowther, Sowerby Bridge. **Chickens.**—First, Fred France, Fulham, London. Second withheld.

ANY OTHER BREED.—First, W. Dawson, Hopton. (Sultans.) Second, Jno. Ferris, Halifax. (Silky Fowls.)

GOOSE AND GANDER.—First, John Rawson, Brockwell. Second, W. Copple, Prescott. **Goslings.**—First, John Rawson, Brockwell. Second, W. Copple, Prescott.

AYLESBURY DUCKS.—First, James Dixon, Bradford. Second, W. North, Huddersfield. **Ducklings.**—First, F. E. Rawson, Thorpe. Second, W. North, Huddersfield.

ROBIN DUCKS.—First, James Dixon, Bradford. Second, W. North, Huddersfield. **Ducklings.**—First and Second, W. North, Huddersfield.

DUCKS, ANY OTHER KIND.—First, James Dixon, Bradford. Second, D. Leeming, Halifax.

DISH OF TWELVE EGGS.—First, Wm. Stott, Sowerby Bridge. Second, John Rawson, Brockwell.

PIGEONS.

CARRIERS.—Prize, John Bairstow, Skircoat.

ALMOND TUMBLERS.—Prize, John B. Edge, Aston, New Town, Birmingham.

BALDS, BEARDS, OR MOTTLED TUMBLERS.—Prize, H. Child, jun., Birmingham.

FANTAILS.—Prize, H. Child, jun., Birmingham. Commended—John Bairstow, Skircoat.

POUTERS.—Prize, H. Child, jun., Birmingham.

DRAGONS.—Prize, John Bairstow, Skircoat.

RUNTS.—Prize, John Firth, jun., Halifax.

ANTWERPS.—Prize, John Firth, jun., Halifax.

LET HENS SIT WHERE THEY CHOOSE.

I HAVE long been a keeper of poultry, and an observer of their habits; and I have arrived at the conclusion that hens are most prolific when left to their natural instinct, as I think the following interesting circumstance will prove:—

One of my hens (a pullet of a late brood last year) formed herself a nest among the Ivy on the top of a wall nine feet high, and on Sunday last, August 31st, from sixteen eggs brought out fourteen strong, healthy chickens of every colour, though the hen is a cross between the Gold-pencilled *Hamburgh* and the *Grey Dorking*. During the time of sitting she was several times exposed to violent storms, and the wall faces the high road, with constant traffic between Richmond and London.—WISTARIA.

MODE OF PREVENTING FOWLS FLYING
OVER FENCES.

RECENTLY I described a ready mode of preventing pigeons flying for a few days by soaping one wing. I now wish to call attention to an equally efficacious plan that is adapted to fowls. Recently, being on a visit to my friend Mr. Higgs, of Southampton, I noticed a hen with the appearance of having a wooden yoke across her shoulders. On inquiry, Mr. Higgs informed me that it was a New Forest plan of preventing the flying of such of the lighter and more active varieties as it was wished to keep within bounds. It consisted merely of a piece of light, thin lath, about two inches longer than the width of the body. Two pairs of opposite notches were cut in it, the distance between the pairs being the exact width of the body of the bird. In these notches a piece of tape was securely tied, leaving the ends free; the lath was then placed over the back, and secured by tying the loose, free ends of the tapes under the wings close up to the body, taking care that they were not tied so tightly as to cut into the flesh. This contrivance offers no impediment to the movements of the fowl until it attempts to raise the wings for flight, when they are checked in their upward movement by the projecting ends of the lath, and flight is consequently impracticable. This plan is superior, in some cases, to that which I have hitherto generally followed, of running the scissors down each side of the primary quill feathers of one wing, inasmuch as the fowl is not disfigured, and it is beyond all comparison better than the unpleasant practice of cutting across several of the quills, which destroys the appearance of the fowl, and leaves an ugly set of stumps, which moult out with difficulty.—W. B. TEGETMEIER, *Tottenham.*

REARING YOUNG PARTRIDGES.

"Do you think that you, or any of your poultry-keeping friends, can prescribe a course of diet for young Partridges from the time of hatching until they are able to find food for themselves? I had a brood this year hatched under a Game hen; but instead of their running, as I had expected, "with their sholls on their backs," I found them extremely weak and delicate. Though they were allowed to remain under the hen for twelve hours after they were hatched, they seemed unable to stand when taken out of the nest, and turned upon their backs like ducks with the *splawders*. Seven out of thirteen died at once. The remaining six, appearing weak and delicate, I kept in a stable for five weeks, and being now as large as quails, I thought it high time that they should breathe the open air. I therefore had them put out into a grass field; but, to my dismay, I found that as soon as they were exposed to the air they again turned upon their backs, and staggered about like drunken men. Four soon died, and the remaining two, though still alive, look very rickety. Their thigh bones seem to be affected, and seem to stand out almost at right angles from the body. I suppose all this arises from some improper treatment. I shall, therefore, be obliged if you, or any of your correspondents, can throw a light upon the subject. I ought, perhaps, to mention that the birds were fed upon ants' eggs, with an occasional meal of maggots and oatmeal grits.—PERDIX IN REBUS ADVERSIS."

[We cannot understand the ailment of these Partridges, as we have never met with anything similar. The best plan we can adopt is to state the course we pursue with almost undeviating success in rearing them. The eggs are always set on the ground. When it is possible we choose a grass field. The birds run as soon as they are hatched. They are kept constantly supplied with water, and fed with chopped egg, meal slaked with milk, a little bruised hempseed, ants' eggs when we can get them, and crumbs of bread. They are always strong, and soon go long distances from the hen. The place we choose, if we can, is a clover field, and we mow out a piece about three yards square, in the midst of which the hen is put under a rip. If we were to guess at the cause of the ailments of the birds, we should say they had suffered in the shell almost to the extinction of life, probably from a prolonged absence of the hen.]

OUR LETTER BOX.

FLOORING OF POULTRY-HOUSE (K. D.).—A concrete, or asphalt floor, formed by mixing dry bricklayer's rubbish, gravel, and gas tar, would be the cheapest for you, and would not be burrowed in by rats.

PULLETS LAYING (K. D.).—Cochin-China pullets usually lay when five or six months old; and other pullets when two or three months older. Warm food has no influence over a hen's laying.

AYLESBURY DUCKS' BILLS (J. C. B.).—"Are the pale-coloured bills and feet essential in Aylesbury Ducks? I have some with orange bills and feet: would such exclude them from taking a prize?"

[Pale cream-coloured bills are essential to Aylesbury Ducks if they are intended for exhibition, but there is no objection to orange feet; indeed, that is the usual colour.]

LONDON MARKETS.—SEPTEMBER 15TH.

COVENT GARDEN.

The continued fine weather enables us to report a fair supply of Fruit and Vegetables, *Apples* being the only article in which there is a marked deficiency, and which, we find, applies to the Continent as well as here. The importations thence, chiefly of *Pears*, *Plums*, and *Melons*, out-door *Peaches*, *Nectarines*, and *Figs*, are more plentifully supplied, as may be said of all the varieties of *Plums* now in season.

FRUIT.			
Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz.....	6d. to 9d.
" dessert	12s. ,, 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen	1s. ,, 3s.	Potatoes, per cwt.	3s. to 6s.
Peaches, per doz.	3s. ,, 6s.	" Frame, per lb. 0d. ,,	0d.
Nectarines, do.	2s. ,, 6s.	" New, per lb. ..	0d. ,, 0d.
Pine-apples, per lb.	4s. ,, 6s.	Onions, Y'ng, per b'nch. 4d. ,,	6d.
Hothouse Grapes, per lb. 3s. ,,	6s.	" Old, per bushel 0s. ,,	0s.
Strawberries, per lb. 0d. ,,	0s.	Turnips, per bunch.	3d. ,, 6d.
Foreign Melons, each 1s. ,,	3s.	Leeks, per bunch	2d. ,, 3d.
English Melons	1s. ,, 4s.	Garlic, per lb.	6d. ,, 8d.
Morello Cherries, per lb. 1s. ,,	2s.	Horsradish, per bundle	1s. 6d. to 2s. 6d.
Cherries, per lb.	0d. ,, 0s.	Shallots, per lb.	6d. to 1s.
Oranges, per 100	10s. ,, 20s.	Lettuce, Cos, per score 1s. ,,	2s.
Seville Oranges, do.	0s. ,, 0s.	" Cabbage per doz. 0d. ,,	3d.
Lemons	10s. ,, 15s.	Endive, per score ..	0s. 0d. ,, 0s.
Almonds, per lb.	9d. ,, 1s.	Celery, per bunch.	9d. to 1s. 6d.
Nuts, Filberts, per lb. 9d. ,,	1s.	Radishes, Turnip, per dozen bunches	— to 6d.
" Cobs, ditto ..	0s. ,, 0s.	Water Cresses, ditto. 6d. ,,	9d.
" Barcelona, per bushel.....	20s. ,, 22s.	Small Salad, per punnet	2d. ,, 3d.
Nuts, Brazil, ditto. 12s. ,,	14s.	Artichokes, per lb.	— ,, 2d.
Walnuts, per 1000 ..	9s. ,, 12s.	Asparagus, per b'dl.	0s. ,, 0s.
Chestnuts, per bushel 0s. ,,	0s.	Sea-kale, per punnet ..	— ,, —

VEGETABLES.			
Cabbages, per doz. 1s. to 1s. 6d.		Mushrooms, per pot 1s. 6d. ,,	2s.
" Red, per doz. 2s. to 4s.		HERBS.	
Cauliflowers, each.	2d. ,, 4d.	Basil, per bunch	4d. to 6d.
Broccoli, per b'dl.	0d. ,, 0d.	Marjoram, per bunch 4d. ,,	6d.
Savorys	0s. ,, 0s.	Fennel, per bunch	2d. ,, 3d.
Greens, per doz. bnch. 2s. ,,	4s.	Savory, per bunch ..	2d. ,, 3d.
Spinach, per sieve ..	— ,, 4s.	Thyme, per bunch ..	2d. ,, 3d.
French Peas, per bshl. 0s. ,,	0s.	Parsley, per bunch	2d. ,, 3d.
French Beans, per hlf. sv. 1s. 6d.		Mint, per bunch	2d. ,, 4d.
Carrots, per bunch ..	4d. to 6d.	Green Mint	6d. ,, 8d.

POULTRY.

We have little variation to note. The supply is rather larger than the demand. Many Partridges are very small, and make merely a nominal price.

Large Fowls 4s. 0d. to 4s. 6d. each.	Hares	2s. 6d. to 3s. 0d. each.
Smaller do 3s. 6d. to 4s. 0d. ,,	Ducks	2s. 6d. to 3s. 3d. ,,
Chickens .. 2s. 0d. to 2s. 9d. ,,	Geese	6s. 0d. to 6s. 6d. ,,
Grouse 3s. 6d. to 4s. 0d. ,,	Pigeons	8d. to 9d. ,,
Partridges .. 1s. 9d. to 2s. 0d. ,,	Rabbits	1s. 4d. to 1s. 5d. ,,
Wild ditto.		10d. to 1s. each.

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Advertisements.

Just Published, price 6d., by post 7d.,

THE PRIZE ESSAY ON REARING AND
FATTENING MARKET AND TABLE POULTRY. By W. B. TEGETMEIER.

This Essay, which has been thought worthy of an entire reprint in the *Gardeners' Chronicle*, the *Mark Lane Express*, &c., is now republished from the *Agricultural Society's Journal*, with additions.

"Contains useful hints which will amply repay the purchasers."—*The Field.*

LONDON: COTTAGE GARDENER OFFICE, 20, PATERNOSTER ROW.

CRYSTAL PALACE.

GRAND HORTICULTURAL EXHIBITION,

SEPTEMBER 10, 11, and 12, 1856.

LIST OF SUCCESSFUL COMPETITORS.

PLANTS.

Class I.—12 STOVE AND GREENHOUSE PLANTS, in flower.

- £10 0 to Mr W. Taylor, Gardener to J. Coster, Esq., Streatham
 7 0 to Mr B. Peed, Gardener to J. Tredwell, Esq., Norwood
 5 0 to Mr E. A. Hamp, Gardener to J. Thorne, Esq., Mawbey House, South Lambeth
 3 0 to Mr O. Rhodes, Gardener to J. Philpot, Esq., Stamford Hill
 2 0 to Mr W. Cutbush, Barnet.

Class II.—6 STOVE AND GREENHOUSE PLANTS, in flower.

- £5 0 to Mr James Morris, Gardener to Coles Child, Esq., Bromley
 3 0 to Mr Thomas Williams, Gardener to Miss Traill, Hayes, Kent
 2 0 to Mr George Brush, Gardener to J. Tritton Esq., Norwood
 1 0 to Mr George Young, Gardener to William Stone, Esq., Dulwich Hill

Class III.—20 VARIEGATED PLANTS, in or out of flower.

- £7 0 to Messrs Veitch & Son, Nurserymen, Exeter and Chelsea
 5 0 to Messrs J. & C. Lee, Nurserymen, Hammersmith
 4 0 to Messrs Jackson & Son, Nurserymen, Kingston-on-Thames
 3 0 to Mr R. Parker, Nurseryman, Hornsey Road, Holloway
 2 10 to Mr George Young, Gardener to William Stone, Esq., Dulwich Hill
 2 10 to Mr Arthur Young, Gardener to F. C. Hills, Esq., Denmark Hill, Camberwell
 2 0 to Mr William Cutbush, Nurseryman, Barnet, Herts
 0 to Mr Robert Oubridge, Gardener to James Foster, Esq.
 2 0 to Mr James Morris, Gardener to Coles Child, Esq., The Palace, Bromley, Kent

Class IV.—10 PLANTS remarkable for fine foliage.

- £5 0 to Messrs Veitch & Son, Nurserymen, Exeter and Chelsea
 3 0 to Messrs Jackson & Son, Nurserymen, Kingston-on-Thames
 2 0 to Mr R. Parker, Nurseryman, Hornsey Road, Holloway
 1 0 to Mr Geo. Young, Gardener to Wm. Stone, Esq., Dulwich Hill

Class V.—6 SPECIES OF EXOTIC ORCHIDS.

- £6 0 to Mr S. W. Carson, Gardener to W. F. G. Farmer, Esq., Nonsuch Park, Cheam
 4 0 to Mr S. Woolley, Gardener to H. B. Ker, Esq., Cheshunt, Herts
 3 0 to Mr W. Gedney, Gardener to Mrs Ellis, Hoddesdon, Herts

Class VI.—10 CAPE HEATHS, distinct kinds (no prize awarded).

Class VII.—6 CAPE HEATHS, distinct kinds.

- £5 0 to Mr Thos. Williams, Gardener to Miss Traill, Hayes Place, Kent
 4 0 to Mr Geo. Brush, Gardener to J. Tritton Esq., Norwood
 3 0 to Mr B. Peed, Gardener to J. Tredwell, Esq., St. John's Lodge, Norwood

Class VIII.—6 PLANTS OF NEPENTHES WITH PITCHERS.

- £10 0 to Messrs Veitch & Son, Nurserymen, Exeter and Chelsea
 7 0 to Mr W. Gedney, Gardener to Mrs Ellis, Hoddesdon, Herts

Class IX.—12 EXOTIC FERNS, tender, cultivated in pots, distinct kinds.

- £5 0 to Mr H. Smythe, Gardener to the Rev. T. Rooper, Wick Hill, Brighton
 4 0 to Mr S. W. Carson, Gardener to W. F. G. Farmer, Esq., Nonsuch Park, Cheam
 3 0 to Mr F. Fletcher, Gardener to J. F. Young, Esq., Upper Kennington Lane
 2 0 to Mr Henry Lavey, Gardener to E. A. De Grave, Esq., Feteam, Leatherhead
 2 0 to Messrs Cutbush & Son, Nurserymen, Highgate
 1 10 to Mr W. Gedney, Gardener to Mrs Ellis, Hoddesdon, Herts
 1 0 to Mr James Morris, Gardener to Coles Child, Esq., The Palace, Bromley
 1 0 to Mr R. Parker, Nurseryman, Hornsey Road, Holloway
 1 0 to Mr T. Gaines, Nurseryman, Battersea
 1 0 to Mr John Hally, Nurseryman, Blackheath
 1 0 to Messrs Jackson & Son, Nurserymen, Kingston-on-Thames
 1 0 to Mr S. Woolley, Gardener to H. B. Ker, Esq., Cheshunt
 1 0 to Mr E. T. Childs, Gardener to P. Secretan, Esq., Thornton Heath, Croydon

Class X.—20 EXOTIC FERNS, hardy, cultivated in pots, distinct kinds.

- £3 0 to Mr James Morris, Gardener to Coles Child, Esq., Bromley.

Class XI.—12 LYCOPODIUMS, not less than six species.

- £3 0 to Mr R. Parker, Nurseryman, Hornsey Road, Holloway
 2 0 to Mr S. Woolley, Gardener to H. B. Ker, Esq., Cheshunt
 1 0 to Mr A. Bonsie, Gardener to the Right Hon. H. Labouchere, M.P., Stoke Park, Slough
 0 15 to Mr W. Gedney, Gardener to Mrs Ellis, Hoddesdon, Herts
 0 15 to Mr E. T. Childs, Gardener to P. Secretan, Esq., Thornton Heath, Croydon
 0 10 to Mr James Morris, Gardener to Coles Child, Esq., The Palace, Bromley
 0 10 to Mr Thomas Gaines, Nurseryman, Battersea
 0 10 to Mr John Hally, Nurseryman, Blackheath
 0 10 to Messrs Jackson & Son, Nurserymen, Kingston-on-Thames
 0 10 to Messrs Cutbush & Son, Nurserymen, Highgate

Class XII.—6 ACHIMENES, distinct kinds.

- £3 0 to Messrs Mitchell & Co., Nurserymen, Brighton
 2 0 to Mr Thomas Gaines, Nurseryman, Battersea
 1 5 to Mr W. Gedney, Gardener to Mrs Ellis, Hoddesdon, Herts

Class XIII.—6 KALOSANTHES, in flower. (No prize awarded.)

Class XIV.—6 FUCHSIAS, distinct kinds.

- £5 0 to Messrs Mitchell & Co., Nurserymen, Brighton
 4 0 to Mr W. Weatherill, Gardener to D. M'Neil, Esq., Holloway
 3 0 to Mr Bragg, Gardener to J. B. Lousada, Esq., Peak House, Sidmouth
 2 0 to Mr Thomas Gaines, Nurseryman, Battersea
 1 0 to Mr E. Harper, Gardener to J. F. Bennett, Esq., Archbishop's Place, Tulse Hill

- £0 10 to Mr J. James, Gardener to W. F. Watson, Esq., Isleworth
 0 10 to Messrs Dobson & Son, Nurserymen, Isleworth
 0 10 to Mr Robert Oubridge, Gardener to James Foster, Esq., Stamford Hill

Class XV.—6 SCARLET GERANIUMS, distinct kinds.

- £3 0 to Mr W. Weatherill, Gardener to D. M'Neil, Esq., Holloway
 2 0 to Mr H. Lavey, Gardener to E. A. De Grave, Esq., Feteam, Leatherhead
 1 0 to Mrs Mary Conway, Earl's Court Nursery, Old Brompton
 0 15 to Mr John Lewis, Gardener to J. Guy, Esq., Hampton Wick
 0 10 to Mr Mitchell & Co., Nurserymen, Brighton

Class XVI.—6 SCARLET GERANIUMS, variegated foliage, distinct kinds.

- £0 15 to Mrs Mary Conway, Earl's Court Nursery, Old Brompton

Class XVII.—6 NOSEGAY GERANIUMS (various). No prize awarded.

Class XVIII.—6 CONTINUOUS-BLOOMING GERANIUMS, distinct, such as Unique, Sidonia, &c. (No prize awarded).

Class XIX.—12 BALSAMS.

- £3 0 to Messrs F. and A. Smith, Florists, Dulwich
 2 0 to Mr T. Shuard, Gardener to Mrs Graham, Herne Hill, Dulwich
 1 0 to Mr Charles Brown, King's Wood, Dulwich
 0 15 to Mr John Green, Gardener to Sir E. Antrobus, Bart., Lower Cheam, Surrey

Class XX.—6 COCKSCOMBS.

- £2 0 to Mr. John Bovingdon, Gardener to P. H. Desvignes, Esq., Ifcher Green, Lewisham
 1 0 to Mr T. Shuard, Gardener to Mrs Graham, Herne Hill, Dulwich
 0 15 to Mr Henry Graham, Gardener to J. G. Cope, Esq., West Hill Lodge, Epsom

Class XXI.—12 VERBENAS, in pots, not less than 6 kinds.

- £3 0 to Mr James Shrimpton, Gardener to A. J. Doxat, Esq., Putney Heath
 2 0 to Mr W. Weatherill, Gardener to D. M'Neil, Esq., Holloway
 1 0 to Mr W. Bragg, Nurseryman, Slough

Class XXII.—6 LILIUM LANCIFOLIUM, not less than 2 kinds.

- £3 0 to Mr Arthur Young, Gardener to F. C. Hills, Esq., Denmark Hill, Camberwell
 2 0 to Mr Wm. Barnes, Nurseryman, Camberwell
 1 0 to Mr S. Woolley, Gardener to H. B. Ker, Esq., Cheshunt
 0 15 to Messrs Jackson & Son, Nurserymen, Kingston-on-Thames
 0 10 to Mr Thomas Gaines, Nurseryman, Battersea
 0 10 to Mr John Hally, Nurseryman, Blackheath

Class XXIII.—MISCELLANEOUS.

- £2 0 to Messrs Jackson & Son, Nurserymen, Kingston-on-Thames
 2 0 to Mr Thomas Brocklehurst, The Terrace, Macclesfield
 2 0 to Mr Charles Turner, Nurseryman, Slough
 2 0 to Mr Wm. Chater, Nurseryman, Saffron Walden
 2 0 to Mr John Keynes, Salisbury
 2 0 to Mr Wm. Bragg, Nurseryman, Slough

[CONTINUED ON THE NEXT PAGE.]

CRYSTAL PALACE—List of Prizes Continued.

- £2 0 to Mr Wm. Saxhy, Gardener to E. Edwards, Esq., Dulwich Hill
 2 0 to Mr Wm. Weatherill, Gardener to D. McNeil, Esq., Holloway
 2 0 to Mr R. Sim, Nurseryman, Foot's Cray, Kent

CUT FLOWERS.

Class XXIV.—50 ROSES, distinct varieties, 3 trusses of each variety as gathered (Nurserymen).

- £4 0 to Mr James Mitchell, Maresfield, Sussex
 3 0 to Messrs A. Paul & Son, Cheshunt
 2 0 to Messrs H. Lane & Son, Berkhamstead
 1 0 to Mr John Cranston, King's Acre, Hereford
 0 15 to Mr E. P. Francis, Hertford
 0 10 to Mr E. R. Greenus, Watford and Rickmansworth

Class XXV.—25 ROSES, distinct varieties, 3 trusses of each variety as gathered (Amateurs).

- £4 0 to Mr G. Brush, Gardener to J. Tritton, Esq., Norwood
 3 0 to Mr Samuel Evans, Gardener to C. E. Newdegate, Esq., M.P., Arbury, Nuneaton, Warwickshire
 2 0 to Alexander Rowland Esq., Rosenthal, Lewisham.

Class XXVI.—24 ROSES, distinct varieties, single blooms.

- £2 0 to Mr James Mitchell, Nurseryman, Maresfield, Sussex.
 1 0 to Mr Samuel Evans, Gardener to C. E. Newdegate, Esq., M.P., Arbury, Nuneaton, Warwickshire

- £0 15 to Mr E. P. Francis, Nurseryman, Hertford
 0 10 to Mr George Wortley, Gardener to Mrs Maubert, Norwood

Class XXVII.—24 HOLLYHOCKS, distinct varieties, single blooms.

- £3 0 to Messrs A. Paul & Son, Nurseryman, Cheshunt
 2 0 to Mr W. Chater, Nurseryman, Safron Walden
 1 0 to Mr Charles Turner, Nurseryman, Slough
 0 15 to Mr W. Bragg, Nurseryman, Slough
 0 10 to Messrs J. & J. Fraser, Nurserymen, Lea Bridge Road, Leyton

Class XXVIII.—50 DAHLIAS, dissimilar.

- £10 0 to Mr Charles Turner, Nurseryman, Slough
 8 0 to Mr John Keynes, Salisbury
 6 0 to Mr Henry Legge, Marsh Side, Lower Edmonton
 4 0 to Mr Charles Kemberley, Nurseryman, Stoke, near Coventry
 2 0 to Messrs J. & J. Fraser, Nurserymen, Lea Bridge Road, Leyton
 1 10 to Mr W. C. Drummond, Nurseryman, Bath

Class XXIX.—24 DAHLIAS, dissimilar.

- £6 0 to Rev. Charles Fellowes, Shottesham, Norwich
 5 0 to Mr George Holmes, Brook Lodge, Norwich
 4 0 to Mr Thomas Leslie, Gardener to Mrs Alexander, Stone House
 3 0 to Mr John Sladden, Ash, Maidstone
 2 0 to Mr A. H. Hogg, Cadland, Southampton
 1 10 to Mr Robert James, Rochester Castle, Stoke Newington

- £1 0 to Mr C. J. Perry, Handsworth, Birmingham
 0 15 to Mr Charles E. Allen, Shacklwell.
 0 15 to Mr John Cook, Rosedale Terrace, Ladbroke Grove, Notting Hill

Class XXX.—12 DAHLIAS, Fancy.

- £3 0 to Mr Henry Legge, Marsh Side, Lower Edmonton
 2 0 to Mr Charles Turner, Nurseryman, Slough
 1 10 to Mr John Keynes, Salisbury
 1 0 to Rev. Charles Fellowes, Shottesham, Norwich
 0 15 to Mr W. C. Drummond, Nurseryman, Bath
 0 15 to Mr William Bragg, Nurseryman, Slough
 0 10 to Mr C. Kemberley, Nurseryman, Stoke, near Coventry
 0 10 to Messrs J. & J. Fraser, Nurserymen, Lea Bridge Road, Leyton

Class XXXI.—24 GERMAN ASTERS, single blooms, dissimilar.

- £2 0 to Mr R. H. Betteridge, Milton Hill, Abingdon, Berks
 1 10 to Mr John Walker, Thame, Oxon
 1 0 to Mr Thomas Westbrook, Abingdon, Berks
 0 15 to Mr James August, Rose Cottage, Beddington, Surrey
 1 10 to Mr W. Bragg, Nurseryman, Slough
 1 0 to Messrs J. & J. Fraser, Nurserymen, Lea Bridge Road, Leyton
 0 15 to Mr George Smith, Wade's Mill, Herts
 1 0 to Messrs A. Paul & Son, Nurserymen, Cheshunt
 0 10 to Mr Robert James, Rochester Castle, Stoke Newington

FRUIT.

Class A.—COLLECTION OF TWELVE DISHES, 10 distinct kinds.

- £10 0 to Mr George Fleming, Gardener to the Duke of Sutherland, Trentham
 10 0 to Mr G. Tillyard, Gardener to the Right Hon. the Speaker, Heckfield, Hants
 7 0 to Mr Thomas Page, Gardener to W. Leaf, Esq., Streatham

Class B.—COLLECTION OF EIGHT DISHES, 6 distinct kinds.

- £8 0 to Mr Thomas Frost, Gardener to E. L. Betts, Esq., Preston Hall, Maidstone
 5 0 to Mr G. Robinson, Gardener to E. R. Tunno, Esq., Warnford Park, Bishop's Waltham
 4 0 to Mr William Taylor, Gardener to J. Coster, Esq., Streatham
 2 0 to Mr William Kaile, Gardener to the Earl of Lovelace, East Horsley Tower, Ripley, Surrey
 1 10 to Mr Samuel Martin, Silwood Park, Sunning Hill, Berks

Class C.—PINE APPLES, COLLECTION OF SIX, 3 distinct kinds.

- £1 0 to Mr B. Peed, Gardener to J. Tredwell, Esq., St. John's Lodge, Norwood

Class D.—PINE APPLES, COLLECTION OF THREE, 2 distinct kinds.

- £5 0 to Mr Thomas Dawson, Panshanger, Herts
 3 0 to Mr Roger Jones, Gardener to the Dowlais Iron Company, Dowlais, Glamorganshire

Class E.—PINE APPLE, PROVIDENCE, single fruit.

- £3 0 to Mr Thomas Bray, Gardener to J. B. Lousada, Esq., Peak House, Sidmouth
 2 0 to Mr A. Stewart, Gardener to the Duke of Devonshire, Chatsworth

Class F.—PINE APPLE, CAYENNE, single fruit.

- £3 0 to Mr Thomas Dawson, Panshanger, Herts

Class G.—PINE APPLE, QUEEN, single fruit, any variety.

- £2 0 to Mr James Barnes, Gardener to Lady Rolle, Bicton, Budleigh Salterton, Devon

- £1 0 to Mr Thomas Bray, Gardener to J. B. Lousada, Esq., Peak House, Sidmouth
 0 15 to Mr Thomas Page, Gardener to W. Leaf, Esq., Streatham
 0 10 to Mr David Price, Gardener to W. Forman, Esq., Denydarren House, Merthyr Tydvil

Class H.—GRAPES, boxes of 12lbs. weight (Market Gardeners only).

- £3 0 to Mr C. F. Harrison, Oatlands Palace Gardens, Weybridge
 4 0 to Mr Peter Kay, Market Green, Finchley
 3 0 to Mr Robert Clark, Turnmoss, Stretford, near Manchester
 1 10 to Mr John Gould, Redditch

Class I.—GRAPES, three dishes, distinct kinds.

- £5 0 to Mr Charles Ewing, Gardener to O. F. Meyrick, Esq., Bodorgan, Holyhead
 5 0 to Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham
 3 0 to Mr C. Alborough, Gardener to E. S. Kett, Esq., Brooke House, Norwich
 3 0 to Mr A. Stewart, Gardener to the Duke of Devonshire, Chatsworth

Class J.—GRAPES, two dishes of Black, distinct kinds.

- £3 0 to Mr Charles Ewing, Gardener to O. F. Meyrick, Esq., Bodorgan, Holyhead

Class K.—GRAPES, two dishes of White Muscat and any other variety.

- £3 0 to Mr S. Snow, Gardener to Earl de Grey, Wrest Park, Silsoe, Beds
 2 0 to Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham
 1 0 to Mr G. Robinson, Gardener to E. R. Tunno, Esq., Warnford Park, Bishop's Waltham

Class L.—GRAPES, the largest bunch of any kinds.

- £1 10 to Mr T. Young, Gardener to Crawshay Bailey, Esq., M.P., Aberdare, South Wales
 1 0 to Mr G. Tillyard, Gardener to the Right Hon. the Speaker, Heckfield, Hants
 0 15 to Mr E. Vare, Gardener to the Rev. C. A. Belli, South Weald, Brentwood

Class M.—PEACHES AND NECTARINES, six dishes, three kinds.

- £4 0 to Mr Thomas Frost, Gardener to E. L. Betts, Esq., Preston Hall, Maidstone
 3 0 to Mr W. Hudson, Gardener to Mrs Barehard, Wandsworth
 2 0 to Mr G. Tillyard, Gardener to the Right Hon. the Speaker, Heckfield, Hants

Class N.—PEACHES AND NECTARINES, four dishes, two kinds.

- £3 0 to Mr Thomas Dawson, Panshanger, Herts
 2 0 to Mr G. Tillyard, Gardener to the Rt. Hon. the Speaker, Heckfield, Hants
 1 10 to Mr G. Fleming, Gardener to the Duke of Sutherland, Trentham
 1 10 to Mr James Shrimpton, Gardener to A. J. Doxat, Esq., Putney Heath

Class O.—PEACHES AND NECTARINES, two dishes.

- £2 0 to Mr Thomas Dawson, Panshanger, Herts
 2 0 to Mr James Lane, Gardener to J. H. Palmer, Esq., Harlingham, Fulham
 1 10 to Mr J. Gundry, Gardener to T. N. Farquhar, Esq., Sydenham
 1 0 to Mr John Clark, Gardener to the Earl of Darnley, Cobham Hall, Kent
 1 0 to Mr George Wortley, Gardener to Mrs Maubert, Norwood
 0 15 to Mr S. Snow, Gardener to Earl de Grey, Wrest Park, Silsoe, Beds

Class P.—APRICOTS, two dishes, distinct.


- £2 0 to Mr C. Ewing, Gardener to O. F. Meyrick, Esq., Bodorgan, Holyhead
 1 10 to Mr Samuel Evans, Gardener to C. E. Newdegate, Esq., M.P., Arbury, Nuneaton, Warwickshire
 1 0 to Mr Richard Nicholson, Gledhow Grove, Chapeltown, Leeds

Class Q.—MELONS, three kinds, distinct.

- £4 0 to Mr John Monro, Gardener to Mrs Oddie, Colney House, St. Albans
 3 0 to Mr John Gadd, Castle Garden, Dorking
 2 0 to Mr James Tegg, Gardener to Baron Hambro, Rochampton
 2 0 to Mr J. B. Whiting, Gardener to H. T. Hope, Esq., The Deepdene, Surrey

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 23—29, 1856.	WEATHER NEAR LONDON IN 1855.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
23	Tu	The September Thorn Moth.	30.250—30.229	76—55	E.	—	50 a 5	55 a 5	morn.	24	7 48	267
24	W	The founced Thorn Moth.	30.436—30.413	65—42	N.E.	—	51	52	0 5	25	8 9	268
25	Th	Autumn Green Carpet Moth.	30.430—30.305	65—27	E.	—	53	50	1 21	26	8 29	269
26	F	Noctua Juniperata.	30.247—30.091	61—26	E.	—	55	48	2 36	27	8 50	270
27	S	Noctua simulata.	29.972—29.752	74—51	S.W.	.01	56	46	3 50	28	9 10	271
28	SUN	19 SUNDAY AFTER TRINITY.	29.669—29.416	72—56	S.W.	.32	58	43	4 59	29	9 29	272
29	M	MICHAELMAS DAY.	30.024—29.538	73—55	S.E.	.08	60	41	sets.		9 49	273

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 65.1°, and 45.2°, respectively. The greatest heat, 82°, occurred on the 25th, in 1832; and the lowest cold, 24°, on the 27th, in 1828. During the period 93 days were fine, and on 103 rain fell.

LASTRÆA RIGIDA.



cording to the situation, from half a foot to more than two feet in height. The *stem* of each frond is thick and stiff, or rigid, whence the specific name; its lower third is without leaflets, but thickly covered with reddish-brown, sharp-pointed, membranous scales; these scales extend up the leafleted part. General outline of the leafleted portion a lengthened irregular triangle. Upper *leaflets* alternate, but lower ones nearly opposite; their stalks much thickened where they join the stem; the leaflets are oblong, blunt, variously but deeply lobed; lobes with from two to five sharp teeth, but not ending in a spine, with the branch of a lateral vein passing into each tooth. *Fructification*, mostly at the upper part of the frond, is at the first fork of each lateral vein of the leaflet bearing it, and so forming a row on each side the mid vein; running together (confluent) when ripe; the cover (*indusium*) kidney-shaped, and attached to the lateral vein by a short stalk at the indentation of its kidney form, white at first, but afterwards leaden-coloured. This cover is beaded round with stalked globular glands. Similar glands are scattered over the frond's whole surface, and they emitting a rather agreeable odour, have caused it sometimes to be called *fragrans*, and, consequently, to be confounded with *L. oreopteris*.

It is almost confined to the limestone mountains of the north of England, where it was first noticed as a British Fern by the Rev. Mr. Bree. He discovered it at Ingleborough, in 1815. Since then it has been found at Whorntside; at Settle; at Arncliffe Knot, near Silverdale, in Westmoreland; and on White Scars, above Ingleborough. A single plant was found near Bath, and another at Louth, in Ireland, but in such situations as to justify the opinion that they were introductions.

Mr. W. Reeve tells us that this Fern is a free-growing species under cultivation, and is a very elegant ornament for the well-drained and shady parts of the rockery. It being found growing wild generally upon chalky soils, and oftentimes upon elevated positions, points out it is well adapted by its native habit for planting on artificial rockwork. It may be grown, also, successfully in shrubberies and wildernesses, where a thorough drainage can be procured, and also shade, in which it delights, although it will bear exposure, but the beauty of the plant is then lost. It will also succeed well under pot-culture, and to thrive it should have a well-drained soil, composed of turfy peat two parts, and one part sand or limestone broken into small pieces, and a free admixture of silver sand; old mortar, broken small, forms a

THIS has been called *Aspidium rigidum*, *A. fragrans*, and *A. spinulosum*, *Lophodium rigidum*, *Polypodium rigidum*, *Polystichum rigidum*, and *P. strigosum*. It is probable, also, that it has been confounded with the *Polypodium fragrans* of Linnæus. It is in English the Rigid Buckler Fern, Rigid Shield Fern, and Rigid Lastrea.

Root thick, slowly-extending, tufted, with many long, wiry rootlets. *Fronds* numerous, in a tuft, varying, ac-

very good substitute for the third part. The same compost will suit it for either pot or rock culture; but whether cultivated in pots or upon rockwork, it must be so placed that, whilst freely supplied with water at the roots and over the foliage (which it will require during the growing season), all excess of water may soon drain away, so that the moisture should never become stagnant about the roots. Although the present species often grows in situations where it is subject to a considerable degree of dryness and exposure to the sun, yet it may, under cultivation, be grown to a much finer state of development if kept moist and shaded during its growing period. Young plants are the best to start with. Proceed with potting and propagating in the same manner as directed for former species, the fructification being ripe by August or September.

It may be grown in-doors, although, like most of the other *Lastræas*, it usually becomes long and weak under confined treatment; but this may be checked if it can be supplied with abundance of fresh air.

CRYSTAL PALACE.—SEPTEMBER 11TH, 1856.

REGRETTING I could not be there on the 10th, I managed, by means of a day ticket, to get up and spend a few hours there on the 11th. Of the Exhibition, very good as a whole, I will say nothing, as Mr. Beaton would have better opportunities to do the subject justice. There are, however, many ideas naturally suggested at such a place worthy of consideration, and more especially when the floricultural arrangements there are coming to be looked upon in the light of authority, and as patterns for imitation and adoption.

The first sensation on getting there was one akin to pride that I belonged to a people that could make such a Palace for themselves. Our neighbours have their Louvre and Versailles, but all under the control of the government. Our papers, for want of something better, teem with descriptions of the gorgeous pageantry, the emblazonry of gold, and silver, and diamonds, at the court of Moscow, contrasting, I fear, but too vividly with the serfdom and low state of civilization of the great masses of the people. Nations that have everything done for them may present a gay and imposing exterior; but as respects the masses, they will rather be children in leading-strings than stalwart men asserting and exercising the rights of volition and action. The heights of intellectual inquiry, moral refinement, and social comfort and prosperity can only be reached by peoples who, animated by self-dependence, and asking little from their government but merely to be let alone, provided no man interferes with the rights of his neighbour, construct for themselves their halls of learning, their temples for charity and benevolence, their iron railways for transit, and their Crystal Palaces for the improvement and recreation of the masses. Were it for nothing else than furnishing an additional proof of the as yet unmeasured strength of this self-dependent principle, whether as referring to individuals or communities, Sir Joseph Paxton and the Crystal Palace Company deserve our warmest gratitude.

The second idea suggested was the responsibility of gardeners, not only in fostering, as they have done, the general taste for horticulture and floriculture, but to strive energetically to continue to lead the movement, as the least lagging on their parts will subject them to the position of being led and directed by it. Upon our own energies and a thorough acquaintance with the

principles of our profession, not only as one of practical detail, but as one of the Fine Arts, second to none in taste and refinement, will depend the fact, whether we are to be looked up to and respected, or kindly considered as mere useful routine labourers for carrying out the ideas of others. From a pretty frequent attendance at metropolitan and country exhibitions, I had long seen and rejoiced in the growing taste for gardening and the increasing love of the beautiful; but I never saw it more exemplified than in this shilling day at Sydenham. *Lads* and *lasses*, out for the holiday, so neat in their Sunday dresses; mechanics with their wives and sweethearts, with nothing in their appearance or manners to prevent them being taken for our polished gentry but the rough, ungloved hand, telling of honourable intercourse with the mallet and the plane, not only passed most sage remarks on the fruit and vegetables, confidentially, of course, but loud enough for a bystander to hear, but entered minutely into the properties of flowers; the beauty of one, the blemishes in another, the harmony of colours in the arrangement of one stand, the contrast of colours so well defined in another, and the want of neither contrast nor harmony in a third; how one set of plants would have shown better placed beneath the eye, and another class would have told better if placed level with or above it; and how another, such as the gorgeous Lilies, would have told with more effect if the pots had been wholly concealed; whilst ever and anon Sarah would whisper to Mary, and Jane point out to Robert certain things inferior to what they severally possessed in their little gardens at home—all acting as so many straws in a windy day pointing to the direction of the breeze, for telling us the current of thought and feeling in the middle and lower strata of society, and, by implication, in the higher stratum likewise, to which floral beauty is not only a pleasure but a necessity, and thus demonstrating the importance of our exerting ourselves to keep in the van of the movement if we have any regard for our honourable position.

The long glazed entrance did not escape my attention, and the more especially as Mr. Beaton described the plants last year that were expected or hoped to stand the winter with the protection of glass, and without any assistance from fire heat. A very fine plant of *Dolichos lignosus*, and several *Passion-Flowers* and other things, seemed to have stood; but most of the soft-wooded climbers looked as if they had either been fresh planted in the spring, or sprung from the roots afresh this season. The most striking and flourishing of these were white *Maurandias* and two or three sorts of *Lophospermum*, which covered the back wall with foliage and flowers. The lower part of the wall was rendered showy with *Scarlet Geraniums*, *Fuchsias*, &c., growing vigorously.

Here, as one proof of thankfulness for the pleasure derived, I would venture a suggestion. A fair experiment has been made, and I rather think that most of the soft-wooded plants would thrive better in the main building; and, as the visiting public is more taken with results than experiments, to make this glazed entrance a very striking and pleasing one, I would keep as many climbing plants as would live, even with their stems taken up singly to the top of the back wall, and encased in a wooden tube in winter, so as to get shoots as from *Passion-Flowers* and *Glycines*, &c., to dangle from the roof in summer. Other fine-foliaged plants, as some of the *Acacias*, might be trained for the very top of the back wall; but the great mass of the wall I would cover with *Tea* and the *Sweetest Noisette Bourbon*, and *Perpetual Roses*; and as there is room enough for a border in front about as wide as that at the back, I would have *Roses* there also, with strongish-growing good ones to mount up single rods of arches, and dwarf ones between; and such a sight, I believe, would be unequalled in this

or any other country. I would urge this the more particularly, because, whatever may be thought of the singular, and, perhaps, unique structure at the top of the mount called the Rosary, it is not likely that the finest Roses would long continue in bloom there from exposure to wind alone—a thing the managers seem to be well aware of from two facts: the first, that with the exception of the climbers and a surrounding belt of Roses, the beds in the interior are as yet devoted to bedding-plants; and, secondly, because most of these beds are considerably sunk, so that whatever is placed in them, if not too high, will not catch the force of the wind. In this long glazed entrance the best Roses would be just at home; and though large plants would be required to make a show at first, I believe that even in this respect Rose growers and exhibitors would be glad to lend a helping hand.

CONVENIENCE AND UNITY OF EXPRESSION.—Having, when last at the Palace, felt some little difficulty in managing my chop without being squeezed and trampled on, I was glad to see, in mounting the stairs, two such nice places set apart for third-class refreshments. There is not an equal improvement for second-class folks at the south end of the building, behind the court of queens and kings. It is not sufficiently shut off from the building to meet an Englishman's ideas of dining comfortably. It is true the main entrance is not through it as formerly, but beyond it, a little on the east side; but, as a consequence of this, the visitor enters the splendid nave sideways, and loses the grand first impression of entering at one end through the court referred to. Had the archway in the centre of that court been five times as large, the main entrance through it, and everything in front of it removed that obstructed the view of the splendid aquarium, with its crystal fountain, and the creepers and hanging baskets of the nave, a grand first impression would have been produced, which is now partly lost by the side-entrance. Here are placed groups illustrative of natural history, representing the varieties of our own species, the animals most common to the defined region, and the plants most abundant there,—a most happy and useful idea, but demanding far more space than is here allotted to it. It would be difficult, even in the vastness of the Palace, to give a correct idea of the scenery, vegetation, and the mode of life of the inhabitants of such distant countries; but something might be done more effectually by more space, assisted by painting: dissolving views of anything of that sort could be managed; or looking through magnifying glasses, on the principle of the penny peep-shows. The latter would be a grand thing for the youngsters, and though the suggestion may appear childish to great minds, I must say that I have a more vivid conception of certain battle-fields and cities on the Continent from these penny peep-shows, when I was a boy, than from all the reading and illustration that have come in my way since. Be this as it may, however artificial we know these mounds of vegetation, formed of roots and rocks, to be, we also know that art is employed to make them look naturally, and that hence the plants growing out of the soil, and the moss creeping and the Ferns hanging over the stone or rock, are just as they ought to be; but until we learn that plants in these countries grow naturally in pots, then each of the hundreds that are stuck in the holes and crevices of such mounds, where the pots might easily be concealed by moss, &c., but are not, is just a break down of the naturalness of the idea sought to be communicated, and a jarring interference with unity of expression.

The same principle applies to other parts of the building, where, in close proximity to plants growing beautifully in beds, is placed a group of plants in pots. If such are necessary for filling up, &c., they should

have a place for themselves. Beautiful as the large basins of flowers looked by the sides of the aquarium, their beauty would have been enhanced if, by looking down at them, no pots were seen. Even a small sprinkling of moss, independently of the appearance, would soon pay for itself in the lessening of evaporation from the soil. Public societies are different from private establishments, and can never be offended with honest, even though mistaken criticism, especially when, as in the present case, without, I believe, arrogating to itself any such distinction, it is no less true that the Crystal Palace is, to a great extent already, and destined to be still more, the great arbiter in all things relating to refined taste in floriculture.

PLANTS NEAR TO AND DISTANT FROM THE GLASS.—This is a matter of every-day importance, and to be regulated in practice greatly by the nature of the house in which the plants are grown. With the mere glass roof of a pit, with the roof, and, perhaps, a part of the front and ends of a lean-to house of glass, the ever-recurring advice, "Keep the plants near the glass," was a very proper one, more especially if the plants were not turned frequently, and there were such things as creepers on the roof to intercept and diffuse the light. The drawing and spindling of plants so much complained of were not owing so much to distance from the glass as to these shading and intercepting media, and to the fact of the light being presented chiefly on one side. I have several times incidentally directed attention to this matter. But for subjects that could not well be delayed, I would have chronicled how Mr. Thompson, late of Wrotham Park, some time now of Dalkeith Palace, had a collection of as pretty stubby young *Geranium* plants as I ever witnessed last May, set upon a level platform at a good distance from the glass. In noticing Weeks' one-boiler system, I also adverted to nice plants of *Geraniums* on a span stage in a span-roofed house; the plants, so far as I recollect, being something like four feet from the glass. In this case glass, and, consequently, light were presented to the plants on all sides. The advantages of standing the plants at a considerable distance from the glass, when the circumstances will admit of it, are chiefly two:—In summer there is little necessity for shading, because the heating rays that would be injurious are well diffused before reaching the plants. The second is that, by having such an amount of atmosphere above them, the plants are less liable to be influenced by sudden frosts.

Whoever has any doubts on these matters should go to the Crystal Palace. Even in the Pompeian Court and the most gorgeous Court of the Alhambra plants are flourishing, though I do not know how long they may have been planted or plunged there; but along the whole of the nave it would hardly be possible to find plants flourishing better, though it must be some scores of feet from the sides of the building and courts, &c., intervening, and I do not know how many scores of feet from the roof. *Water-Lilies* in the aquarium were just in their element. *Fuchsias* were fine, and threatening to mount up some day to the top of the highest pillars. *Geraniums* had as fine a colour as if grown in the open air. *Rhododendrons* were beautifully green, and set with flower-buds; and *Camellias* had fine green foliage, and were full of flower-buds on short-jointed wood, just as if the tops had been within a few inches of a glass roof. *Creepers* and *hanging baskets* had no signs of being particularly elongated, and if the tropical part showed, if anything, less vigorous health than the more temperate part, I should trace it to a little deficiency of heat, rather than deficiency of light. It may thus be considered established beyond doubt, that provided light reaches a plant on all sides, the mere distance at which it stands from glass is a matter of comparatively small importance. Gentlemen who delight in well-grown plants and elegant

houses should keep this in mind when citing the Crystal Palace on other matters. The results there amount to demonstration clear, and on a gigantic scale.

CLIMBERS AND HANGING BASKETS.—The climbers, in many instances, have mounted up wonderfully, and will, ere long, form a grand feature in the nave and transept. The idea of suspending baskets, so as to give a flaunting, flowing, vegetable drapery to these parts of the building before the climbers could do this of themselves, was a most happy one. Notwithstanding the interest thus awakened, I have no sympathy with those who must be so much in the mode that they can see no beauty save in basketry-suspended. Many plants would be just in their element when hanging in great lengths over the sides of such baskets, and for such a place will ever be secured. All plants that naturally grow upright would be better in vases, or planted on the ground, especially if at all of a shrubby character. Much as these baskets are admired, I would wish to see fewer of them as the climbers gain strength and occupy their place. I am prejudiced enough to own that in walking underneath them, though knowing the slender iron rod or chain was sufficient to support them, I experienced a little of the sensation which Damocles must have felt, had he seen the sword suspended by a hair over his head. Besides, I cannot join the general chorus in praise of the mode and taste displayed in filling them. The principle, in most cases, seems to have been to make the opposite baskets somewhat alike, and to put as much variety into each basket as possible. Just by the same system with the clumps in a sweet little flower-garden, put as much variety as possible into each, and when you look for a well-balanced whole, you find you have secured an unmeaning, wearisome monotony of sameness. To me there is a similar monotony in these suspended baskets. Every one has a right to his own opinion in such matters. No doubt those who thus filled them had a reason for it, and possibly exigencies more powerful than reasons. I slipped out my opinion on the matter to two gardeners during the day. One of them told me I ought to have got out of my shell in July, and then I would have seen baskets; and the other told me, that as all the columns of the building were counterparts of each other, so all the baskets must necessarily be alike; but then they are such wags for humour, that I hardly know now how much or how little they were in earnest. I believe there are two sizes of baskets in the building, and each size is uniformly placed opposite its kindred size. This is all that is necessary to agree with the uniformity of the columns, &c. At present there is, to a great extent, a uniform sameness. Were each two opposite baskets planted alike, and the next two also alike, but as different from its neighbour as possible, there would still be uniformity, but with all the charms of a pleasing variety. It would be difficult to get as many good hanging plants as would prevent repetitions; but these might be a considerable distance from each other. With at least three coloured *Maurandias*, several *Lophospermums*, several *Pussion-Flowers*, different coloured *Nasturtiums*, including the favourite *Tropæolum pentaphylla*, *Eccremocarpus scaber*, *Cobæa scandens*, *Convolvulus* of all colours in autumn, &c., for larger baskets; and such plants as *Hibbertia grossulariæfolia*, *Saxifraga sarmentosa*, *Variegated Strawberries*, *Ivy-leaved Geraniums*, and many other things would do for the smaller baskets; while in summer such plants as *Torenia*, *Thunbergias*, &c., would be quite at home. There would thus be no difficulty in producing a nice variety in unison with a true uniformity; and even changing these baskets several times in the year, provided the good public will place ample means for doing so within the manager's reach, and then I think these much-praised

baskets would be a pattern for imitation by all who delight in vegetation suspended.

Of course many plants more tender would suit the tropical department; but I have been so long indoors, I must get out to the terrace and grounds. R. FISH.

SHRUBLAND PARK.

I HAVE just paid my second triennial visit to this princely garden, as I may call it, without ever having heard of a prince who could boast of such a place. They made a great fuss with their old pupil: the best pair, the best coachman and second coachman, with the high chariot of state, were waiting at the station to carry me over a little more than a mile of ground. On entering the park by the London lodge—technically termed, in the neighbourhood, Harry Moor's Lodge—I saw that Harry was still alive, for no other Harry or Harriet on earth could grow such boxes of Scarlet Geraniums as stood about fronting the gate. From this lodge the carriage road ascends gently to the "Russian Lodge," situated at two-thirds of the distance to the mansion, to keep back the deer from molesting Harry's Geraniums: this was also in a blaze of scarlet. The last third of the distance is a rapid ascent, and lands you on the edge and termination of an extensive plateau, or table-land, some miles in circuit. A wide sweep of gravelled "coach ring," and you are at the front entrance, which looks to the rising sun when the day and night are of equal length. All this time, if you are a total stranger, you will not perceive that there is a single flower or a flower-bed about the place—the most fortunate thing which can be said of any place, and more so of a place situated as this is, in the midst of an extensive park; for, if there is one rule of greater value than the rest about such things, it is this—that a stranger should first see the beauties of the flower-gardens from the drawing-room windows.

Now, a man of less enthusiasm than your humble servant could not well avoid speaking or writing in raptures about such gardens as we shall look round presently. Obvious reasons stand in my way, however. This is the university at which I took my degrees; the hospitable owners were my professors; they not only did not put obstacles in "my way to yonder gate"—the gate of fame—as did the professors in the Royal Academy at Inverness, but accelerated every step of the way towards it. Then, having saturated my mind with their own high notions of flower-gardening, I went on my way rejoicing; and when I am invited to return at stated periods, as on the present occasion, it is to compare notes and ideas.

I went over every item of the long bill of fare, first with Sir William and his head gardener, and then with Lady Middleton and Mr. Foggo, the said head gardener. Some great people, or who are thought to be great in mind as they are in body and estate, act very differently from this—would go round the picture gallery with the stranger, the student, or the critic alike; that is to say, in the absence of the head gardener or curator, who thus loses the benefit of panoramic lectures, discussions, and debates on or about the different objects as they are passed in review; for you will please to recollect that these "returns" to the "hall" of this university are not for the purpose of lauding and flattering, but for exactly the contrary thing. We "face it" out and out as they do in "both houses," and back our arguments with equal stress and ingenuity; but we never call them debates, only panoramic lectures, and it is from these and similar lectures that the students receive their first impressions, at this university, of what is before them in this busy world.

You will find a condensed account of the new terraces

and all the more prominent features of the place in the volume for the autumn of 1853, and as you are a stranger to the place, I shall not tease you concerning things you care little about; but let me beg of you, as a favour, to follow me closely round the beds and patterns, and see what you can learn, as you did not hear those lectures, which we never repeat a second time. The whole garden front of the mansion is one blaze, in one line, of Scarlet Geraniums, principally in slate boxes, painted a deeper blue than the Crystal Palace blue; the house is built with the best white Suffolk bricks, manufactured by the baronet himself, so to speak, and is so enriched with Caen stonework and stone terraces, that nothing short of the most brilliant scarlet flowers and that kind of blue boxes could stamp a harmonious contrast to so much white: red bricks and red stone or marble would need white or light purple flowers and stone-coloured boxes. *Tom Thumb* and *Punch* are the kinds most used in these boxes. Looking over one of them from any of the drawing-rooms, the flower-beds on the terrace would be something more or less than twenty feet below the eye. Down the centre of the terrace garden is a broad walk, flanked with standard Portugal Laurels in raised stone boxes of rich architectural design and proportions, which form the letter **T** with another broad walk along the bottom; and in the centre, where the two arms of the letter meet, is a pavilion-like temple dedicated to Æolus, the young god who ruled the winds; but he shares his rule here at times with Boreas, his elder brother from the north, with a powerful impulse on the brink of a precipitous hill, now cut into two parts by the grand flight of steps, over which you look down from the temple of the winds on the best picture of flower-gardening I ever saw; but we must first go over the beds on the upper or home terrace garden. The principal of them are eight in number, four on each side, in two pairs across from the centre walk. Each pair is connected in an original way, which I never saw on paper, grass, or gravel, by a circle touching the end of each bed in the centre, and by a larger circle uniting these two, just like a pair of spectacles, if you make a circle of the "bridge over the nose." The two eyes and the circle of the "bridge" are planted with quite different plants from those in the beds; some pairs of eyes with Yuccas, with Humeas betwixt; some with Hydrangeas or Agapanthus, the best terrace-garden plant we have after *Humea elegans*. One of the principal beds out of the eight holds more plants than some whole flower-gardens. Before the beds were altered, an outside row used to reduce my stock—250 plants of *Mangles' Variegated*, and that kind we put in double rows for edgings—just 500 plants to edge one bed with, but a mere nothing in such great places. The beds have now broad stone edgings to answer for *Mangles'*; then a green border of grass, twenty inches or more wide, for contrast; then a walk, as you might call it, twelve inches wide, and filled with silver sand, with an edging of Box to the inner side next the flowers. This is, without exception, the very best and richest style of making beds on a gravel terrace, the edges of the beds being nine or ten inches higher than the gravel. There are grass and sand patterns with architectural accessories, and rare trees or shrubs at each end of this terrace, the tree which Prince Albert planted in 1851 being one of them (*Libocedrus Chilensis*); and there are long narrow beds and some long borders on the side next the house, but their arrangement is to suit the architectural lines of the terrace, and that particular arrangement might never occur again; therefore we shall pass it.

The grass bands round beds or gravel relieve the glare from so much gravel and stonework, and the white lines of silver sand between the grass and flowers tell far better and more distinctly than outside lines of the very best variegated plants; so that, in such a disposition,

the variegated plants come in the *second* row round the bed to relieve two shades of red or scarlet. The prevailing practice of having the outside row in variegated plants is the first step in *contrasting*, and also the first in harmonious tinting; but the art of relieving, so to speak, with variegated plants or white flowers otherwise than on the outside of a bed is not yet understood by the many, and is only practised here and a few other places, such as this or Trentham. If you comprehend these simple rules, you will understand and appreciate the following way of planting beds, each of which stands independently on its own merits, and yet forms but the eighth part of a great whole or system. No. 1 is banded outside by a double row of *Harkaway*, the best of all the green-leaved Geraniums for an edge, the colour being more like Chinese than European—a peculiarly rich tint of orange scarlet; then about eighteen inches wide of *Mangles' Variegated*; then a great breadth of *Punch*; and the centre of *Shrubland Scarlet*, with the plants sized so as to appear no higher than in the exact proportion of a gentle slope from the outside to the very centre of the bed. No. 2, *Young Toms* for *Harkaway*, *Mountain of Light* for *Mangles'*, with *Punch* and *Shrubland Scarlet* as in No. 1. No. 3, *Baron Hugel* first; *Golden Chain*, three rows, next; *Blue Cape Aster*, *Cineraria amelloides*, backed with *Ageratum*; and the centre of *Salvia patens*, intermixed with *Larkspur*. No. 4, *Baron Hugel*, *Golden Chain*, *Purple Petunia*, *Love-lies-bleeding* round *Prince's Feather*, the side of the *Purple Petunia* next the *Golden Chain* being trained down to meet it, and the back left to rise sufficiently to meet the drooping tassels of the *Love-lies-bleeding*, and no more is seen of the *Feathers* than the purple spikes of bloom. This is admirably managed.

Now, double these for the other side, and let me hear if you can manage any of the designs next year. Nothing is more easy than the planting; the great art is in the training, the cutting and carving, which must be constantly looked to through the season, to keep every shoot, leaf, and flower as if the whole was just turned out of a band-box, or as the ladies-maids look after the hair, the dress, and the *fal-dals* of their profession. Without a constant lady's-maiding, a flower-garden would soon look as rough as Polly Hopkins.

Under the Albert Tower, the south extremity of this front, is a very different pattern, the ground-work being in purple and white, the *Enma* Verbena, with a lighter one; and in the scroll, between the masses, four small diamond beds meet, and there are three sets of them in a straight line, all planted with *Musk*—a very great mistake. This pattern is dead level and lying on silver sand, with a profusion of white stone or bricks in every direction: *green*, and not *yellow*, is, therefore, the relief agent. This was missed in our rounds, else I should not mention it. I saw it from the top of the tower. The three sets of four diamond beds were planted, in 1851, with that unique seedling of mine now called the *Bridal Ring*, and I recollect perfectly well how Prince Albert admired them, although every flower was picked off them that very morning with my own hands. The flowers add no beauty to the *Bridal Ring*, or to the *Golden Chain* and *Baron Hugel*; yet who would not rather part with their jewels than be without either of the three in such a place as this?

Under the south angle of the tower is Sir William's study, and a flower-bed in front of it is all he used to claim for himself. It is about sixteen or eighteen feet long, and eight or nine wide, on gravel. Here is where we used to flower the *Crassulas*, alias *Kalosanthus*, bordered by the deep blue *Lobelia ramosa*, alias *heterophylla*, one of the best of our annuals. Both would come off together, and pot-plants which were in training for the situation would supply the places for the rest of the season. The arrangement is very good and peculiar

this season. First a thin band of the best kinds of *Phlox Drummondii*, trained close to the ground; then a low, bushy band of the Frosted Silver plant, *Cineraria maritima*; then the Purple Unique Geranium, trained down; then the Variegated Geranium called *Lady Grenville*, this being the first time of its advent to these pages; but it has been in the Experimental all this season. It is a chance variety of, and a better kind than, the old *Zonale variegata* of Miller's time, and the centre of, I think, mixed Scarlet Geraniums. In front of this, and running under the whole south front, or conservatory terrace, is the same arrangement as was first adopted in 1850, and is described in the volume for that year, where the first blue and yellow ribbon which surrounded that pattern is spoken of. The plain ribbon system was originated here by Lady Middleton, on "the block bank border," more than twenty years back. If the Crystal Palace authorities had seen how this pattern is bound round with the blue and yellow ribbon, their own chain pattern in the two centre panels might have been in better taste. This pattern is a succession of oval-shaped beds on a square base or border, bounded by a terrace wall on the back, and a kerbstone in front. The ends of the ovals do not touch exactly; there is just room for the two ribbons to cross between the ends.

Now, start from one end of the border, and pass a blue band of *Lobeliaramosoides*, ten inches or a foot wide, down one side of the first oval bed, and a like yellow band of *Eriogonum prostratum* down the other side, and cross them at the pass between the two beds, and so on all the way, a blue and a yellow ribbon alternately facing either side, the ovals to be filled alternately to suit with the *Lady Middleton* Geranium and *Cerise Unique*. The spare part of the border or ground colour is silver sand, and the larger open spaces opposite to where the beds meet are occupied with specimen plants of the *Gooseberry-leaf* Geranium in little circular beds, one plant in a bed. This looks extremely well. A Yellow *Heart-case*, the yellow ribbon this season, and the *Lobelia ramosoides* for the blue; and all the ovals are with *Cerise Unique*. The *Ramosoides* has taken a bad disease here this season; and as it may increase like the Potato disease, they will substitute *Speciosa* for it next season. This is quite as good and deep a blue as *Ramosoides*, is much about the same size, and spreads rather wider, and it has no seeds with me this season.

The flower-boxes about the conservatory terrace, and all about the walls and balustrades, are much as I used to describe them. I found the *Lucidum*, *Coral-stemmed*, and the best of that class among them, and got a stock of it from hence. The conservatory was in the hands of the carpenters and glaziers, getting an entire new front, and the usual display here was in the Balcony style: but the house and staircases, with the statue galleries in the front entrance, were loaded with fine, handsomely-grown specimens in bloom, much better than during my time; but then they have six times the quantity of glass since then, Mr. Foggo having put up, in the last eighteen months, just as much glass as Mr. Davidson and I put up between us. His designs, and his way of treating and ventilating, are as superior to our different modes as ours were from those of older date; but I must have a day on purpose to tell of this part of the present management, and another to tell of the grounds and novel plans beyond the Temple of the Winds, and below the hill-side on which it stands.

D. BEATON.

EARLIEST NOTICE OF GUANO.—Though I am not able to fix the precise date at which Peruvian guano was first used as a manure, it may be interesting to be referred to the following passage in an old work written in Spanish by Albano Barba, curate of the parish of

St. Bernards, in Peru, in 1640. and translated in 1669 by the Earl of Sandwich, which has been published in the last *Journal of the Bath and West of England Agricultural Society*:—

"Cardanus, among his curiosities, makes mention of another kind of earth, anciently called *Britannica*, from the country where it is found; they were fain to dig very deep mines to come at it. It was white; and after they separated the plate that it contained, they manured their tilth fields with the earth, which were put in heart thereby for one hundred years after. Out of Islands in the South Sea, not far from the city of Ania, they fetch earth that does the same effect as the last aforementioned. It is called *Guano*, id est, Dung: not because it is the dung of sea fowls, as many suppose, but because of its admirable virtue in making ploughed ground fertile. It is light and spongy, and that which is brought from the Island of Iqueyque is of a dark grey colour, like unto tobacco ground small; although from the Islands nearer Ania they get a white earth, inclining to sallow, of the same virtue. It instantly colours water whereinto it is put, as if it were of the best leigh, and smells very strong. The quantities and virtues of this and of many other samples of the New World are a large field for ingenious persons to discourse philosophically upon, when they shall bend their minds more to the searching out of truth than riches."

The earth called *Britannica* is, of course, marl, which, in very early days, was much used in England, and particularly in Kent and Sussex. In the "Letters to Ralph de Nevill, Bishop of Chichester, written by his Steward," and published by Mr. Blaauw in the 3rd volume of *The Sussex Archaeological Collections*, we have frequent notices of its application to the land. Writing to the bishop in 1222, he says:—

"By the Grace of God all your affairs proceed prosperously in Sussex. I am using Marl at Selsey, with 2 Carts, as it is said that the Marl found there is the best; wherefore, if you should see it to be advisable that I should use Marl with more Carts, I advise you should procure from Sir Godeseall, or elsewhere, 12 mares to draw in the Carts, inasmuch as it is expedient for you to procure them in those parts, because they are as dear as Gold in Sussex. . . . In like manner," he adds, "I am using Marl at Watresfield with 5 Carts, and I much hope that it will result to your advantage. . . . In your manor of Selsey, I am marling effectually, so that on the departure of this, five acres have been marled."

There are very few farms in the Weald of Sussex without what are called their marl-fields. The use of lime and chalk has superseded that of marl; but the numerous marl-pits, which are now commonly transformed into ponds, in which carp and tench are kept—fish which were much more esteemed by our ancestors than by ourselves, to whom all the funny treasures of the deep are open—prove how prevalent the custom of marling once was.—R. W. B.—(*Notes and Queries*.)

OUR HOUSE PLANTS IN AUGUST AND SEPTEMBER.

ACHIMENES that have ornamented stoves and green-houses will now, many of the early ones at least, be past their best, and no pruning or daily cleaning will ever enable them to rival their first brilliancy, and the best plan is to remove them at once. Where to? is the question. Many place them at once in a corner, anywhere out of sight, under glass, or under a wall or a bush, as the case may be, and then wonder, next spring, why they must hunt up their neighbours for good, sound tubers, their own being so small, shrivelled, or diseased, that they know they will do little good with them. What else could be expected, when the foliage, still green, is allowed to wither or grow as it may in a shady, cold corner, or is shrivelled up at once by exposure to the fierce rays of an unobstructed sun?

Healthy, vigorous, floriferous growth next season depends on the healthy maturation of the tubers now before they are induced to go to rest for the winter. The best place to convey them to is a cold pit, where they can have, at first, the sunlight a little shaded, and then completely unshaded; water given scantily while the leaves are green, and, as they turn yellow, withheld altogether, and care taken that no rain falls on them, and then, after a week or two, the pots turned on their broadsides, but so as, while damp is excluded, the surface of the pots shall receive a good portion of the sun's rays. The next best place is the foot of a south wall, where the plants can be shaded at first, and then exposed to full sunlight, and, when the foliage is decayed, the pots to be then laid down. The tubers may remain in the pots all the winter in a dry condition, or, as saving room, be taken out, and each sort put in bags, or in a pot or saucer, covered with dry earth or sand, and, in either case, kept where the temperature will not be long below 40°. Let no amateur think that these trifles are unworthy of attention. The first elements of success are sound, fleshy, healthy tubers.

GLOXINIAS that have bloomed early treat the same as Achimenes, only, if possible, they should not go out of doors, as, the higher and drier the temperature, when the foliage is nearly decayed, the more perfect will the tuber be. Though kept dry when in a state of rest, I prefer leaving them in the pots turned on their broadsides, as, when taken out, the tuber is apt to shrivel too much; and if much care is not exercised in watering when they begin to swell and grow, a rottenness is apt to ensue from a sudden extreme of dryness and moisture. I do not like the temperature to be lower, in winter, than from 40° to 45°, and the soil about them dry. When the tubers get very large they should be exchanged for medium-sized ones, as they always make the healthiest, best flowering plants. Seedlings and cuttings in spring will now be coming in for a late display, and will require a temperature of from 60° to 75°, plenty of moisture, and a little shade on very bright days.

ALLAMANDAS and STEPHANOTIS, &c.—The beauty of these next year depends on their treatment now. The flowering will be over, or nearly so. Let them grow on, with plenty of heat and moisture, and a little shade, and you will have plenty of vigour next season, prune how you will; but few flowers will reward you for your labour. Place the plants anywhere now where they will have a dry atmosphere, unobstructed sun-light, air as much as will not greatly lower the temperature, and water just sufficient to keep the leaves from flagging—that flagging, in a very bright day, being prevented by a dousing over the foliage from the syringe, rather than watering at the roots, if the soil is at all moistish—and the shoots will get hard and firm before the end of October, and provided the plants are kept in a temperature of from 50° to 55° in winter, and dry rather than otherwise. However you prune your plants, you will have no scarcity of bloom on the fresh growth of next summer. *Echites suberecta*, *atro-purpurea*, &c., should be treated in the same way, and the same may be said of the best Ipomæas.

PASSION-FLOWERS and such plants as the above, grown on the roof, should have the exhausted shoots pruned back, in order that the younger ones showing bloom may have more room, and more light be admitted to the plants on the stages or borders beneath, as the sun is now fast losing its power, and the ripening of the wood of all plants requires that they should have almost the whole sun-light they can obtain. Prudence and caution must even here step in to guard against extremes, inattention to which has been the source of many misfortunes. For instance, for eight days now previous to this 25th of August, we have had dismal, rainy weather,

relieved by but few blinks of sunshine. What would you think of the wisdom of a gardener who, in such circumstances, would give his plants the usual daily jerk from the water-pail? What sympathetic pity are you prepared to pour into his ears, so open to receive such balmy consolation, when he sends you lugubrious accounts how this and that fine plant festered, cankered, or went off at the collar, when he had used his utmost art to treat the denizen of a hill-side as if it rejoiced in a sedgy, squashy marsh? Suppose a bright, sunny day were to come to-morrow, on the principle that there cannot be too much of a good thing, would it be right to give to every plant all the sun-light possible? In the open air we cannot avoid it to any extent; but then the plants there are under no such artificial régime as our pets in stoves and greenhouses, though even they often suffer from sudden extremes. In such a case, prudence would advise a little shading until the plants got used to the change, and a slight syringing, to lessen evaporation through the foliage; and the want of this little attention, without any other cause whatever, has paralyzed the energies of many a tender plant, and shortened the career of many beds of Cucumbers and Melons, that otherwise would have repaid the cares of their attendants.

R. FISU.

(To be continued.)

SEASONABLE HINTS ON THE CULTURE OF FLORISTS' FLOWERS.

LOBELIAS (tall).—These fine ornaments to the flower-garden and parterre have been much improved lately in breadth of petal and density of spike. The colour has not been much improved. The original *L. fulgens* and *L. cardinalis* have flowers of the most splendid scarlet. The varieties since brought into culture scarcely excel them. The plants now will be in full flower, therefore but little attention is required beyond keeping them clear of weeds, and duly supplied with water if the weather prove dry. Should any have been grown in pots they will now be out of bloom. These may be cut down, the flower-stalks cut into three-inch lengths, and inserted very deep round the edges of 5-inch pots; and placed in a frame on an exhausted hotbed. They will strike root, and push forth buds, and form nice plants next year.

As soon as the old plants in pots push forth new shoots, and these have attained some size, they may be divided into as many plants as there are shoots, that is, if it be desired to increase the stock. I have found that when these old plants (after being cut down) have been left without dividing, a kind of canker has seized upon the old flower-stem in the centre, and gradually destroyed not only it, but all the young sprouts around it. Any grower, then, that has but a small stock had better seize time by the forelock, and divide his plants directly, nursing them for a few weeks under glass till they are fairly established. After that is accomplished he may place them on a shelf in the greenhouse, or in a warm pit through the winter. They make excellent plants for pot-culture the succeeding season. The plants in beds, when out of bloom, may be taken up with good balls, and put into large pots or boxes, and placed in pits, or in a good greenhouse, securely protected from frost and damp. They will, in the spring, produce a great number of plants, sufficient for the largest flower-garden.

LOBELIAS (dwarf).—These are indispensable for a garden on the bedding-out system, and now is a good time to take up a few plants of the best varieties, and pot them, cutting off the tops that may be late and straggling, trimming them in so as to form neat, bushy plants. Half a dozen plants so potted, and well pre-

served on a shelf in the greenhouse, will furnish many hundreds of cuttings in the spring.

PANSIES.—The attention that these plants require now is to take up the layers, and pot them, and also to take up the cuttings, and pot them into small pots. The best position for these young plants through winter is a cold frame or pit close to the glass, protecting them from severe frost through the winter. Old, spreading, straggling plants should have their tops cut back to the centre, leaving the young shoots untouched. By this pruning in early they will make nice, bushy plants, which, in nine cases out of ten, will live through the winter, and flower early in spring.

POLYANTHUSES.—At this season these plants should have all their old, decaying leaves trimmed off, the surface of the soil stirred and removed, and a top-dressing of the proper compost applied. The plants should then be placed in a more open part of the garden, fully exposed to the warm autumn sun. See that the leaves are clear of the red spider, the grand enemy of the Polyanthus. Should any be observed, wash the leaves with a very soft brush dipped in sulphur-water, especially the under side, where the insects generally prevail the most. A little attention to this point, at this season of the year, will be of great service as a check to these pests. Should heavy, rainy weather prevail, the plants should be placed in frames directly, giving air abundantly on all favourable days. Observe if there are any worm-casts on the surface of the soil, and if they appear, turn the plants out of their pots, keeping the balls entire. The worms will generally be found on the outside of the balls, or at the bottom, and may then be easily removed and destroyed. Should, however, any be artful enough to remain in the centre of the ball, then tap the ball gently, and generally they will creep out of their hiding-place, and may be easily caught. In very obstinate cases it may be necessary to resort to the last remedy, that is, a watering with clear lime-water.

VERBENAS.—Cuttings of these plants may yet be made, and these very often form the best plants in the spring, on account of their being short, stubby plants. Many sorts root freely in the bed at every joint. If small parts so rooted are taken up carefully, and potted, and placed in a cold frame, shaded from the midday sun, they will soon make fresh roots, and form good, bushy plants, which will yield a good crop of cuttings in the spring, besides forming early, good plants for pot-culture or for bedding. Where there is the convenience of a cold pit, it may be filled with light, rich soil, and these rooted layers may be planted in it rather thickly in rows, keeping the varieties distinct and legibly named. I have seen this mode practised with the greatest success when large numbers were required. The mildew is very apt to prevail strongly in damp weather just now. It may be kept under by frequent dustings of sulphur on the infected leaves.

T. APPLEBY.

ORCHIDS BEARING COOL TREATMENT.

(Continued from page 383.)

ONCIDIUM.—The *Oncidium*s are a very large family, most of which are from the warmer parts of South America and the West Indies. It is a remarkable fact, that no *Oncidium*s, numerous though they are, are found in the East. There are a few species natives of Central America in a more temperate clime. All the species from Guatemala with large pseudo-bulbs are able to bear a cool treatment.

O. LEUCOCHILUM (white-lipped), Guatemala.—A very fine species. There are some slight variations in regard to the colours and number of the spots, but they are so slight as scarcely to be noticed. The sepals and petals

are yellowish-green, blotched with rich brown; the lip is large, pure white, stained in the centre with rose colour. The pseudo-bulbs are of a medium size, and the leaves long sword-shaped. The flower-stems spring out above the first pair of leaves in strong plants; they often grow from seven to nine feet long, with many lateral branches, from one to four feet each. When well-grown and well flowered this is a very handsome species. Mr. Skinner recommends that it should be grown in a summer temperature of from 55° to 70°, and should be well watered whilst growing through the months of July, August, and September, the rest of the year to be watered only very slightly, just as much as a dewy night would give out of doors. He says, the seasons here (Guatemala) are the same as in England—the coldest weather December, January, and February. On the 25th, 26th, and 27th of December, the thermometer in the open air at six o'clock in the morning for three days averaged only 36° Fahr., and yet *O. leucochilum* continued to produce its young stems. This being the case, it renders the species hardy enough to give it a cool treatment in this country. There are few green-houses but are kept during winter several degrees above 36. If a house is devoted purposely to Orchids bearing cool treatment, this is one that would thrive well there. I have proved its hardihood myself repeatedly, and always found that it grew stronger in a cool house than a hot one.

O. MICROCHILUM (small-lipped).—This is also a Guatemalan species, with greenish-red sepals, edged with yellow; the petals are dark rose and yellow, and the lip is white and yellow, blotched and spotted with dark purple. The pseudo-bulbs are short and dumpy, and the leaves rather long and very thick. It is a well-defined species, and tolerably handsome when in flower. Mr. Skinner found it growing on a bare rock, with a quantity of decaying leaves lodged amongst the leaves and pseudo-bulbs, the roots seeking support in the crevices of the rocks. As it grew in such exposed situations the temperature varied considerably, being about 65° by day and 50° by night—just the heat of our summer. These hints are always welcome to the cultivator in this country. Acting upon them, I grew this species in a pot three-parts filled with stones or broken pots, the other part turfy peat and decayed leaves, placing the pot in the most exposed part of a cool house. I found the plant so managed grew and flowered very fairly, and no doubt, as it grows older, it will flower still more freely.

O. SPHACELATUM (scorched).—This handsome Orchid is also a native of Guatemala. The flowers are of a medium size, and of a bright yellow and brown colour; the pseudo-bulbs a long oval, rather flat, and ribbed; leaves long and arched. A free-growing and abundant-flowering species if not grown in too much heat. In a cool house it makes many stout pseudo-bulbs every year, and every one made one year flowers the next, throwing up lofty flower-stems very much branched, forming a truly handsome object.

There are some other Orchids that I have no doubt would flower more freely and more dwarf in a cool house, though they are natives of a warmer clime than Guatemala. One especially I have proved suitable for the cool house, and that is—

O. FLEXUOSUM (bending), from Brazil. *O. crispum*, from the Organ Mountains, has never been grown yet so well as it deserves, and I believe the failure arises from its being generally grown in a too shady, damp atmosphere. All the broad-leaved species, such as *O. luridum*, *O. Cavendishianum*, *O. sanguineum*, and *O. Lanceanum*, I fear, are too tender for a cool treatment, chiefly because they either have no pseudo-bulbs, or very obscure ones. Well-ripened large bulbs are far more likely to bear such treatment.

PERISTERIA ELATA (the tall Dove Plant).—I am very glad to have to report this noble and truly handsome Orchid as one that will grow well under a cool treatment. The flowers are on a tall, stout spike; they are about an inch and a quarter across, and are like white wax, with lilac specks on the base of the lip. The sepals and petals are very stout, waxy-like, spreading-like wings; the column has two spots on each side like a pair of eyes; hence the inside of the flower bears a striking resemblance to a dove with its wings expanded. It is from this likeness that the natives, ignorantly irreverent, name it "el Spirito Sancto," the Holy Spirit plant. It is much esteemed by them in consequence. The pseudo-bulbs are as large as a swan's egg, or even larger, and are of a beautiful green colour. The leaves are often three feet long, lance-shaped, and drooping towards the end. When in flower the whole appearance is very grand indeed. The way to manage it in a cool house is to pot it in April, just as the young shoots begin to appear, in a mixture of fibrous loam, leaf-mould, sandy peat, and potsherds, adding a number of pieces of charcoal, broken to the size of walnuts. In potting, place two or three inches of broken pots at the bottom, cover them with some of the rough pieces of the compost, then put in a portion of the mixture, turn the ball out of the old pot, and pick out as much of the old soil as possible; examine the roots, and cut away all that are dead or decaying; then place the plant in the middle of the new pot, observing that its size is proportioned to the size of the plant; fill in amongst the roots the new compost, filling up to nearly level, but not quite to the rim of the pot, keeping the pseudo-bulbs above the soil entirely, and finish by gently striking the pot two or three times on the bench to settle the soil amongst the roots; then place the plant in the house, as near to the glass as the leaves will permit, but give no water for a fortnight. If the days are sunny it will be advisable to shade the plant till new roots begin to appear; they will be seen pushing out under the last-made pseudo-bulb; water the plant as soon as they appear, but only round the sides of the pot. They must never be watered very freely at any time, for the bulbs, if once over-watered, rot very suddenly at the base, gradually decaying upwards, and thus one year's growth is lost. As soon as the summer's growth, or, in other words, the new pseudo-bulbs are fully grown, then cease watering altogether. This will happen during the dark season of winter, when most Orchids require a severe rest, and this one particularly so. If the plant has been well grown, and its new bulbs perfected and duly rested, it will flower the summer following. The flower-stem will be seen starting conjointly with the young shoot. If it is not seen, then that bulb will not flower that year: it is in vain to look for it afterwards. All that can be done then is to repot it, and grow it on freely another year. Observe that, whether it flowers or not, it must be potted, for it is quite possible to grow a good bulb and a strong flower-stem the same season. As the flowers are so beautiful and unique, the plant is worthy of every care.

PHAIUS ALBUS (white-flowered).—A beautiful plant from the mountainous districts of Nepaul, where it is found growing on trees in damp, shady situations on the Khooseea Hills, at an elevation of three thousand feet above the sea. It is well known that Nepaul is very moderate (compared with the plains of India) in temperature; hence this plant does not require what cultivators in this country give to it—the heat of the Indian Orchid-house; hence they fail in growing it satisfactorily. No Orchid can be more easily grown, providing it has rest, shade, and water at the proper season, remembering, also, that it will not bear the least stimulating. Every process of growth must be gentle and gradual.

The plant should be dormant all through the winter, kept in a house not more than 50° in temperature. It

will even bear the heat in that state to go down at night to 40°. In the spring, as soon as the buds at the base begin to swell, then repot it in fibry peat, mixed with charcoal, and well drained, observing to keep the base of the long pseudo-bulbs just level with the soil. The roots generally die annually; hence, at the time of potting, it will be necessary to support the stems with sticks, one to each pseudo-bulb. After it is potted place it again in the house, choosing the most shady part, but give no water till fresh roots are emitted; then keep it pretty moist, and when the leaves begin to unfold themselves, and have advanced to nearly their size, then syringe freely almost every day until the flowers begin to appear. After that only water at the roots until the flowers decay, then reduce the water and the heat till the leaves turn yellow, when water must be withheld altogether through the winter months unless the pseudo-bulbs shrivel, when a little moisture may be given, to keep them plump and fresh till the repotting season returns. The flowers are large and pure white, excepting that the labellum is pencilled with purple. The pseudo-bulbs are very long (often three feet) and small, seldom thicker than a goose-quill, and the leaves are of a beautiful silvery green.

PLEIONE MACULATA (spotted).—The Pleiones are a genus of Orchids lately separated from Cœlogyne. They are the Crocuses of the upper parts of India. Formerly they were grown in the hottest Orchid-house, but are now found to thrive much better in a lower temperature. *P. maculata* is a dwarf Orchid, with spotted pseudo-bulbs growing on the surface of the soil. The flowers are white, and the lip is spotted and blotched in the most exquisite manner with a variety of colours.

P. PRÆCOX (early-flowering).—This is very like *P. maculata*, only it flowers much earlier, and has different pseudo-bulbs.

P. WALLICHIANA (Dr. Wallich's).—This is also a dwarf plant, with larger pseudo-bulbs than the preceding, and of a darker green, and more thinly spotted. The flowers are rose and white, also spotted slightly with dark rose. It is a beautiful species.

The whole of this genus is from the Khooseea Hills, in Nepaul. Like the Crocus of Europe, the bulbs are annual, that is, the old one decays and dies as soon as the new one is fully formed; also, the flowers appear before the leaves. When at rest, of course they should be kept moderately dry, and in the cool temperature of about 45° to 50°; in that they will flower, and after blooming will begin to grow, that is, put forth leaves. Then is the time to repot them. The compost proper for them is a mixture of fibrous peat, sand, loam, and half-decayed leaves, with a small portion of river sand. Choose pots in proportion to the number of bulbs for each. Drain well, and pot them so as to leave the pretty pseudo-bulbs fully exposed. As these plants grow in open plains, the pots should be placed in full light near the glass, and but little water given till the warm weather advances, when the roots push and the leaves grow; then the quantity should be increased; and when the leaves have nearly attained their size, they may be frequently wetted from the fine rose of the watering-pan. The new pseudo-bulbs will soon begin to form and swell, and when fully formed, and the leaves begin to change colour, the watering should be gradually reduced, and the heat also. When the leaves are quite dead, cease watering altogether, and place the pots and bulbs in a dry, shady place till the flowers appear again.

SOPHRONITES GRANDIFLORA (large-flowered).—This plant, though a native of the mountains of Brazil, has proved itself hardy enough to bear a cool treatment. Indeed, it has almost been murdered by cultivators hitherto, by being kept in too much heat constantly, which is to be much regretted, for a more beautiful flower no Orchid produces. The blooms are about two

inches across, and are of a most vivid orange-scarlet colour. The whole plant, with its flower, may be covered with a tumbler glass; hence it is a beautiful little gem. It should be grown on a block, with a little moss below the pseudo-bulbs, and placed in the cool house rather in the shade. Syringe frequently when growing, and keep dry when at rest.

With this gem I close my descriptive list of Orchids bearing a cold treatment. I trust the number is quite sufficient to induce many an amateur to devote a small house to them, or even to try a few amongst his greenhouse plants. I would also recommend a trial of the following: *Trichopilia tortilis* and the *Zygopetalums*. I have no doubt they would grow and flower well in a cool house.

T. APPLEBY.

OAKS FROM KURDISTAN.

QUERCUS INFECTORIA.

ALTHOUGH it is stated in catalogues that this Oak, which produces the Nutgalls of commerce, was introduced to cultivation in this country in 1822, it is extremely doubtful whether the statement means anything more than that acorns had then been received; and there is reason to believe that in reality the first live plants seen in this country were raised in 1850, in the Society's Garden, from acorns sent home by A. H. Layard, Esq. This distinguished traveller met with it abundantly in Kurdistan, especially in



Acorn of *Quercus infectoria*.

the neighbourhood of Bitlis, which seems to be the emporium for "Galls." The inclemency of the winters in that region leads to a hope that the species will be hardy in the milder parts of Great Britain. If, as Mr. Barker Webb supposes, it is not really distinct from *Q. Lusitanica* and *australis*, the probability of the species being hardy is increased.

The Nutgall Oak forms a small tree, with nearly smooth branches and leaves, the only down upon it, when the foliage is fully formed, consisting of a small quantity thinly scattered over the twigs and petioles. The leaves are evergreen, oblong, on slender petioles, from two to three inches long, rather shining and even on the upper side, finely netted on the under side, with very uniform broad simple serratures. The acorns are remarkable for their great length, as compared with the short cup with adpressed scales.

QUERCUS BRANTII.

When in the year 1839 (?) James Brant, Esq., H.M. Consul at Erzeroum, visited Kurdistan, he was accompanied by Dr. Edward Dickson, who prepared for the herbarium a

considerable number of the more remarkable plants met with during the journey. The collection having been after-



Acorn of *Quercus Brantii*.

wards presented by Mr. Brant to the Hon. Wm. Fox Strangways, was given by the latter gentleman to the writer of this notice, who published, in the Botanical Register for 1840, an account of the remarkable Oaks which formed a part of Dr. Dickson's* herbarium. Among them was a very remarkable species, named after Mr. Brant, the great heart-shaped, bristle-toothed, leathery, woolly leaves of which, measuring as much as six inches by four, especially attracted attention, as of a plant likely to be ornamental in this country. Many attempts were made to procure acorns of the species, but in vain, until Mr. Layard took such measures as resulted in the despatch of a box of them, which arrived safely in the year 1850. Among these acorns there were some of remarkable size, one of which was afterwards identified with *Q. Brantii*, when the young Oaks were old enough to be determined. The strong, coarse, erect, woody scales of the cup, bordered by a row of recurved hooks, and more than half as long as the blunt-ended acorn, offer a ready means of recognition. After growing the plant for two years it has been ascertained that the species is deciduous, not evergreen, as had been supposed; and this renders it almost certain that another name of it is *Quercus Persica*, of Jaubert and Spach, as appears from specimens (No. 115) collected by Kotschy in March, 1842, between Abuschir and Schiras, where it is represented to be a common tree. All the plants that were raised from Mr. Layard's acorns have been distributed among Fellows of the Society fond of arboriculture.

At the same time another Oak was raised very like *Q. Brantii*, and supposed to be a variety of it, of which there is reason to believe that the annexed cut represents the acorn.



Acorn of *Quercus Brantii* var. 7.

The size and form of the acorns of *Q. Brantii* are so remarkable as to justify a conjecture that it was this very species which was occasionally employed by the Assyrians to decorate their sacred tree, before which King Senna-

* It is right to state that the author of the notice in the *Botanical Register* was not aware, till long after 1840, that the collection had been formed by Dr. Dickson. This explains why that gentleman's name was not mentioned.

cherib is represented standing, on a royal cylinder figured by Mr. Layard. (*Discoveries in the Ruins of Nineveh and Babylon*, p. 160.)

The hardness of the species is not yet absolutely proved, but there is also no reason to doubt it.

Two other acorns, with erect scales on the cups and wanting the inner row of recurved hooks, were also received from Mr. Layard, but having been packed in honey they were dead, and it is not known to what species they belong. They seem to differ from each other as well as from *Q. Brantii*.



Acorns from Kurdistan, the species of which is unknown.

—(*Horticultural Society's Journal*.)

BEES IN SCOTLAND THIS YEAR.—NOT FILLING GLASSES.—BARLEY-SUGAR FOR.

It was with a great degree of interest and delight that I read Mr. Tegetmeier's account of his prolific swarm, and I must confess, until I turned the leaf and saw his name affixed as the contributor of the article, I felt much disposed to think that some apiarian was amusing himself by having a hearty fling of the batchet, for which uncharitable thought, on seeing his name appended, I was heartily ashamed of myself; for although I have not the honour of knowing him personally, yet I know, from his position as an authority in poultry matters, and his standing as one of your contributors, he has said no more of his hive than he was entitled to do. But in this our northern clime we meet with no such fortune; and never since bees were bees have they had to contend against such dismal weather as they have had to do this season in this locality.

I feel tempted to give you an account of my experience this year, which, if you should think it likely to be of interest to your apiarian readers, perhaps you may find room for it in your columns; and if your readers will but look on my picture and on Mr. T.'s, they will not wonder why I read his account with delight, especially if they are, like me, enthusiastic lovers of the honey-bee.

Number one is a Taylor's Single-bar Hive, peopled by a second swarm last year, and strengthened in the autumn by the bees from two hives, one on each side. These bees were chloroformed with complete success. A dozen of bees would fill up the list of killed and wounded. This hive, after being so strengthened and made up for the winter, weighed 30 lbs. This year, as soon as it was apparent extra room was required, I opened the communication between

the top and bottom box: in about three weeks it was full of comb and a little honey; they then began to cluster at the entrance to the hive, working little. This looked premonitory of swarming; yet I could not think it likely either, as all the royal cells I could see, namely, five, were not only not sealed up, but also eggless. Under the impression, however, that a little more room might cause them to work more briskly, I put an empty box between the super and the stock. In consequence, they partially, and but partially, deserted the super, and occupied the triplet. When inspecting this a month afterwards I found it full of comb, and almost every cell sealed up containing brood. Here, then, was a three-storied hive as full of bees as bees could make it, with thousands yet unborn. Surely, one would think, a rich and abundant harvest of honey will be the result, and, in order to make sure doubly sure, I removed them some half a dozen miles into a district where there were at least sixty acres of white Clover, with an abundance, also, of Lime-trees. The day I removed them and the one after were choice days; then, alas! came thunder and lightning, hail storms, and rain in torrents, followed up with easterly gales, cold and cutting as charity is now said to be, and the flowers in the pasture-land were "a weel awa." I brought them home this week, and from my monster hive I have obtained, I grieve to say it, one pint and a half of honey.

Seeing, then, my success has been *nil*, and as I love to hear bees well spoken of, wonder not that Mr. T.'s description of his bees' prolificacy was a cheering balm to my grieved spirit. Now, when the thing is over, I fancy I see my error; it lay in giving them too much room. Had I not placed the triplet on the stock, I am inclined to think the queen would not have left the stock-hive for laying purposes, although I do believe this is an evil to which the storifying system will always be more or less subject.

My hives number *two* and *three* are wrought in the collateral system; four to ten inclusive, on the swarming; but perhaps I had better leave what I have to say of them until another early opportunity, if it so pleases you, and terminate my present communication by noticing two matters mentioned in the August number. First, that of the bees not filling the glasses; and, second, how to make barley-sugar so as not to candy. It is a common practice, almost universal, putting on the bell-glasses two or three weeks after the swarm is established, or as soon as crowding is observed. This practice has succeeded, I know; and I also know it has not succeeded. Witness Mr. T. and your other correspondents' remarks. Now, the system which I adopt I have never known to fail, and it may be worth their while to try it. On the day, and as soon as the swarm is hived, I place my glasses, and ere the evening, provided the glasses are kept cool and covered, they are full of busy bees, working hard at comb-making. If you permit me, I will at some future time give you a description of a box and appendages I found the most profitable to use.

With regard to the barley-sugar, to one pound of sugar add three-quarters of a tumblerful of water, and three-quarters of a wine-glassful of vinegar. Boil for from twenty-three to thirty minutes, or until such time as, by dropping a little of the syrup into cold water, it immediately hardens; pour out gradually on a thin dish previously buttered. Thus far, at present, about the bee matters in the North.—D. G. McLELLAN, near Glasgow.

PLANTING BROCOLI.

In nineteen cases out of twenty Brocoli plants are put in so crowded as seldom to produce heads larger than tea-cups, and very often much smaller, whereas, were they allowed ample space and planted in due time, they would, if the land was rich, and though they might be sequestered in other respects (as many must be in small gardens), produce heads as large as a quarter-peck measure, and that invariably, too, and some much larger. Where such thick crops now exist it would be well to thin immediately, before it is too late, to at least one yard apart square. It is true that here and there one on the thick principle may attain to a head of tolerable size of a spritty character, from the circumstance of the plant at first laying hold of a piece of

dung or some other stimulant, and then going ahead and gaining predominance over ten other adjacent plants, which are kept in the back-ground as useless; but this one plant, if it ever becomes a good one, is sure to be at the expense of some ten smaller spritty ones, not fit even to be seen in a garden, and if it were worth sixpence it would not pay the grower. Late *Turnips* are, in ninety-nine cases out of a hundred, spoiled in this way, not being set out uniformly and early.—HARDY AND SON, *Seed-growers, &c., Maldon.*

STORING FLOWER-SEEDS.—EARLY-PLANTED POTATOES LEAST DISEASED.

I THINK it is about two years ago since Mr. Beaton urged us to collect our seeds, and told how to do it without having them littering about; and as you must have a good many fresh readers since that time, perhaps, if I state how near I have approached Mr. Beaton's ideas, it may remind some of the fresh subscribers to do likewise, or make some farther improvement in the matter. But, before I begin, I should be very glad if Mr. Beaton would just point out to flower-gatherers how it should be done. It is rather galling to see the very bloom you have tied up and marked for seed cut and slashed all to pieces just as you are priding yourself on your success; or, perhaps, in some conspicuous part of the flower-beds you have placed the specimen plants that have cost much time and attention, and, just as you think you have got a plant worth looking at, along come the shears, and away goes a branch, and the plant looks like a pig with one ear; and not because there were no other flowers of the same kind, but because it showed itself well where it was, and, as a matter of course, must look so much better than others when placed in a vase in the drawing-room, and, after all, perhaps, is never noticed by a single individual after being placed there, whereas, had the flower remained uncut, it may have gratified the eye for months.

Mr. Beaton, do stand our friend, and tell the ladies to take a little more interest in the flower-borders, and learn the difference between flowers that are grown to cut from, and those that are grown as specimen plants for the borders.

Now for the seeds. Mr. Appleby told young gardeners, in his instructive papers, to keep on good terms with the cook. I thought it a hint worth taking, and as cooks have a taste for a pot or two of flowers to put in the kitchen window, and to call their own (and I have seen flowers of no mean character in those windows, and am always ready to keep up a supply of them), and the cook in return keeps every paper bag that comes from the grocer's or elsewhere, so that my store-room and potting-shed at this season of the year look like a paper-bag warehouse; for throughout the year, as they come to hand, I place them in sizes on files made of wire, and as the seeds ripen they are put into one of the bags head downwards, and then hung up against the wall to dry, there being a draught all through the room, and when there comes a wet day I rub the seed out. Now, to keep a great variety of seeds in little papers takes time to put them up, and in the spring it is troublesome to search for the different sorts as they are wanted; and when any plan becomes troublesome it is almost sure to get cast aside, or, at least, only about half carried out; therefore, my first thought is, Will it save time, or can I arrange it so that it will give me but very little extra trouble? and some three or four dozen little papers of seeds to be rummaged over every time you want a pinch would be no slight tax on your time, with the untying and tying up again; so, to remedy this, I had to call the cook to my assistance, and collect all the wooden match-boxes that were to be met with, and save all that came to hand in future; and, as I rubbed out the seeds, I had a box with the name of the seed written on a strip of paper and pasted on the head of the box, and so with the seeds that are purchased; and as they are filled I lay them on their sides in a cupboard with their top in front, and four dozen boxes take up but a very little space, and when any seed-box is wanted it can be seen at a glance, and can be taken out and put in again without disturbing the rest. By just soaking the top, the rough glass stuff will easily scrape off, and if the box is washed and the top painted white, instead

of the strip of paper, it would give them a very neat appearance, and if they get dirty they can be washed again, and will last a lifetime.

As most people are now getting up their *Potatoes*, perhaps you may like to hear how the crop is in the different parts of the country. I am happy to inform you that I have the best crop I have seen for years; they are Fortyfolds, with the exception of about a perch, which was planted on the 30th of April. These were quite green when the rain came in August, and here I had more diseased *Potatoes* than I had from about eight sacks of sound ones on the other part of the garden. Even the earlier planted on the same bed were almost free from disease.—THE DOCTOR'S BOX.

NOTES ON ENGLISH HOUSEHOLDRY DURING THE MIDDLE AGES.

THE following are from Mr. Roberts's work recently published:—

A barrel of olives given to the Mayor of Poole in 1561 cost 8s. 6d. Saffron was a choice present also.

Pepper and ginger are mentioned in the archives of Southampton in the reign of Edward III.

The saucers were dealers in sauces, herbs, and vegetables. The spicers, besides spices and condiments, dealt in medicinal drugs.

In 1593 Sir George Trenchard had a box of marmalade and six oranges presented by the Mayor of Lyme, at a cost of 7s. Two years after appears this entry in the Lyme records:—"1595. Given to Sir George Trenchard a fair box of marmalade gilted, a barrel of conserves, oranges, lemons, and potatoes, 22s. 10d."

In the same year was "given to my Lord Marquis of Winchester a box of marmalade gilted, containing 7½ lbs. at 2s.; a barrel of conserves, containing 4 lbs. at 1s. 1d. the lb.; 4 lbs. of dry conserves at 2s. the lb.; oranges and lemons at 6s. the hundred—32s. 10d."

In 1608, at a public dinner, we find "a piece of boiled beef and cabbage" cost 1s. 4d., a capon 1s. 6d., and "frit and cheese" 1s. "Did Sir Anthony Ashley, of Wimborne St. Giles, introduce the Cabbage, a vegetable unknown to our countrymen, or did the specimen at his feet on his tomb indicate he introduced that variety?"

When Sir Richard Reynell entertained Charles I., in the September of 1625, at Hinton House, though there are long catalogues of fish, game, "chickens, capons, ducks, pullets, geese, turkeys, and pigeons," yet there is but one dish of vegetables mentioned, and this consists of "six *Artichokes*."

When the Archbishop of Canterbury visited his lands at Tarring, in Sussex, about the year 1277, the prices of articles to be supplied by his tenant the latter agreed should be as follows:—

	s.	d.
A bushel of <i>Wheat</i>	0	2½
" " <i>Oats</i>	0	1
Carcass of <i>Beef</i>	1	4
Yearling <i>Hog</i>	0	8
Four gallons of <i>Beer</i>	0	1
Two good <i>Hens</i>	0	1
Five score <i>Eggs</i>	0	1

(Cartwright's Rape of Bramber.)

In 1613 *Potatoes* were sold at 2s. per lb. Then they were a luxury, and so continued until ninety years ago, when, in 1765, Lord Sheffield bought some, and soon after the farmers in Sussex began to plant them in the fields. This novelty experienced the usual fate, *viz.*, that of exciting prejudice against it. At an election at Lewes, *Potatoes* shared with Popery the popular indignation; and "No Popery, no *Potatoes*!" was the party cry.

Those delighting in poultry will be interested in learning that *Ducks* used to be marked as Swans now are. A man (25. Elizabeth) was presented at Seaford, by a Jury, for marking three ducks with his own mark, and cutting out the owner's marks.

BRILLANT DE VAISE.

I HAVE only two reasons for saying a word more on this subject. The first is to atone for a seeming slight, which I did not intend, about Rose budders who go "without shoes or stockings." I knew a cavalry officer who was promoted to the first rank of commander without having a shoe or stocking on; he went by the name of "little Donald Beaton," my own father being Muckle Donald at the time and place.

The second reason is to help to dispel a deeply-seated scholastic delusion about the names of plants. Translations, quantities, and equivalents, are not thought essentials by the most learned botanists, as some of our own clerical readers think they ought to be. Classical rules are broken through every year of our lives in all departments of natural science, to satisfy the rules of euphony, or the sound most pleasing to the ear. *Brilliant de Vase* is pure English all but the *de*, and that is, to my ear, more euphonic than any term of the French, therefore I adopt it; but I allow that, if a young French lady took a strange freak and fell in love with me, it would be more homely for her to sing young Donald de Dundee than the "true Scotch at any price," although the lass of Gowrie might insist on it that a "slip of the pen" and a slip of far more importance were "made out and provided for" by "the bird o' bra fether." In "society" none of our high ladies say, now-a-days, *Souvenir de la Malmaison*, but only "the Malmaison Rose," nor *Bijou de l'Horticulteur*, nor *Etoile de la Vaise*. And now *Verbena odorata de la pudibunda* will be prepared to allow that names of places in an old country are not necessarily in the language of that country; therefore I repeat it, *Vaise* is not in the best French authorities; *Vase* is, and we have adopted it. Can you say that it is more the one than the other? Now, hear me, I insist on it that no one has a right to "thwart my way" who cannot translate the words *shin will non fer*—four words in four languages, which, put together, make a grammatical sentence of good sound meaning.—D. BEATON.

NEW PLANTS.

RHODODENDRON BROOKEANUM (*Sir James Brooke's Rhododendron*).—Appropriately called after the Rajah of Sarawak, for it is a very distinguished species, and is a native of Borneo, where he rules. It was discovered by Mr. Low, but imported by Messrs. Veitch, of Exeter and Chelsea Nurseries, through their collector, Mr. T. Lobb.

"I shall never forget," says Mr. Low, "the first discovery of this gorgeous plant; it was epiphytally upon a tree which was growing in the water of a creek. The head of flowers was very large, arranged loosely, of the richest golden yellow, resplendent when in the sun; the habit was graceful, the leaves large. The roots are large and fleshy, not fibrous as those of the terrestrial Rhododendrons. It is the least common of all the genus in the island, and has many varieties, which differ in having larger flowers and leaves, the former of a more or less red colour. Very high and large trees, in damp forests, are its favourite haunts."—(*Botanical Magazine*, t. 4935.)

RHODODENDRON EDGEWORTHII (*Mr. Edgeworth's Rhododendron*).—Discovered by Dr. Hooker in the inner valleys of the Sikkim-Himalaya Mountains at from 7000 to 9000 feet above the sea. It is named after P. Edgeworth, Esq., of the Bengal Civil Service. Its flowers are white, tinged with pink. It flowers in a cool greenhouse during May.—(*Ibid.* t. 4936.)

DENDROBIUM AMBOINENSE (*Long-petaled Amboyna Dendrobium*).—This Orchid was discovered by Mr. Henshall in Amboyna, and imported by Messrs. Rollison, of Tooting Nursery. It bloomed there in June last. The petals and sepals are extraordinarily long; they are white, slightly tinged with yellow.—(*Ibid.* t. 4937.)

METHONICA VIRESCENS.—We think there is no sufficient reason for encumbering our botanical nomenclature with this new name for *Gloriosa virescens*.—(*Ibid.* t. 4938.)

SALVIA PORPHYRATA (*Bright red-flowered Sage*).—It is probably a native of Central South America; and Sir W.

Hooker concludes that it will not prove hardy, but "will probably make a valuable bedding-out species, the plants being humble in stature, and the flowers copious and brilliant."—(*Ibid.* t. 4939.)

SWARMS WITHOUT QUEENS.

In reply to a Kilkenny correspondent, page 371, any novice in bee-keeping knows that bees never establish a swarm without a queen, and you knowing this, how came you to adopt your minister's plan of making a swarm by scooping with a saucer the cluster of bees outside the hive into an empty one without a queen? I have had some experience in the care of bees, and I never knew an instance of a queen returning to the hive with a swarm; in fact, that would be contrary to the *rationale* of swarming. Perhaps Dr. Dunbar is the best authority on this point, with whom I have had both public and private correspondence, and he never mentioned it. I may say the same of others. But those apiarians are well aware that bees often sally out of the hive as if swarming, and quickly return. This often happens before the first swarm, especially in sudden, hot sunshine during bad weather; and this verifies what Dr. Dunbar says: "The old queen is more wary, and waits her time." Perhaps the next time you read and write you will be more wary yourself. I did not say your bees swarmed without a queen.—J. WIGHTON.

QUERIES AND ANSWERS.

GARDENING.

LIST OF AUTUMN-BLOOMING ROSES.—TRANS-PLANTING WHILE IN LEAF.

"Will you be so good as to give me the names of about a dozen or twenty of the best Perpetual Roses, whether Bourbon or Hybrid, to place on a bed under a window, where it is desirable to have it always gay, in preference to the newest or rarest varieties, but still requiring good Roses? I can find none to equal *Mrs. Elliot*, *Géant des Batailles*, *Bourbon Queen*, and *Baronne Prevost*; but I should be very glad to add to my list of good autumnal flowers which open freely. They are for low standards. *Souvenir de Malmaison* is easily spoiled by rain. *Dr. Marx* does not open well here (Ireland), and *Wm. Jesse* does not give many autumnal flowers. I should, of course, prefer the handsomest, if these bear well both in autumn and summer.

"Do you consider it injurious to move Roses in October while still in leaf?—JANE."

[Add *Mrs. Rivers*, *William Griffith*, *Auberon*, *General Jacqueminot*, *Pio Nono*, *Robin Hood*, *Duchess of Sutherland*, *Madame Laffay*, and *Rose du Roi*, the oldest of them all. These Roses should flower anywhere much better than *Mrs. Elliot*, but, probably, they ought to have a great deal more water than you give them from the beginning of June to the very end of August.

As to moving of Roses in October, there is no danger in the practice if they are closely pruned before they are taken up. All our deciduous bushes, fruit-trees and all, would do better in some soils if they were removed about the middle of October, provided always that close pruning was the first step. None of these gain anything after the middle of October, and many of the strong growers often get worse for planting during the next month.]

BERBERIS ASIATICA.—DEUTZIA GRACILIS.

"You have several times mentioned *Berberis Asiatica* as being suitable for an ornamental hedge. I have inquired for it of several nurserymen, but have not been able to meet with either plants or seed. Can you tell me where to procure them? How many years would it be before the seeds would produce a hedge four feet high?

"Can you tell me how to manage *Deutzia gracilis* to obtain bloom in the open border? Mine survived the

winter, but budded for bloom before the frost was over, and, consequently, the buds were destroyed.—R. B.”

[The difficulty of getting the *Berberis Asiatica* in quantity has been told often. We ourselves sowed seeds of it in 1843, which were distributed by the Horticultural Society. In 1850 some of the plants were ten feet high, and they would have made a good, close, impenetrable hedge of from six to seven feet high, with good management, in the time. We measured one of the plants the other day. It is a standard, five feet high in the stem, and fifteen feet high in the whole; the diameter of the head is five feet, and the size of the stem at the surface of the ground was that of a stout arm. There is no question about this plant making a hedge the *quickest* of all our hedge-plants, and it might be sold as cheap as Thorn-plants of the same age, or cheaper, if there was a demand for it. It seeds as freely as the common Hawthorn, and comes from seeds with one-half the bother, and will grow on the poorest land, if it is worked deep, as well as the Hawthorns do on lean land. The soil where the above-named specimens are growing is sandy, and not ten inches deep, on a bed of chalk, and the place which the standard *Berberis* occupies was a hole for a *Noisette grandiflora* Rose, which died by inches, for lack of nourishment.

Dentzia gracilis, and all other shrubs and trees whose blossoms are injured by late spring frosts, must be treated just in the same way as Peach-trees or Scarlet Geraniums. They must be covered in some way or other for a little time before they come into blossom till the flowers are over.]

WHITE FUCHSIAS IN THE OPEN GROUND.— DIVIDING *DICLYTRA* *SPECTABILIS*.

“Will you tell me the names of any hardy White Fuchsias that will stand out the winter in a bed with merely ashes or cinders to protect them? It is a cold clay soil, but the hardy red Fuchsias grow most luxuriantly it, with only the protection above named. Will the *Duchess of Lancaster* or the *Queen of Hanover* stand out the winter?

“May I divide a *Diclytra spectabilis* this autumn? It is three years old, and has quite outgrown the bed in which it is planted, being now a large shrub.—A SUBSCRIBER.”

[White Fuchsias should not be left in the ground till the roots are full three years old, and if they are four years old it would be all the safer. Then, by cutting them down in October *before the frost touches them*, and covering them with coal-ashes, and a helmet of straw, stuffed full of hay, placed over the cone of ashes, they would be safe. The best whites are mentioned in the report of the Crystal Palace last week.

Divide the *Diclytra* at the beginning of February, or when the new sprouts are one inch long from the root, not one inch above ground.]

CLIMBING ROSE.—GERANIUM NOT BLOOMING.

“The list of climbing Roses I require is for a dwelling-house, to stand in a window in a drawing-room.

“I should be glad if you could tell me the name of the Geranium I have enclosed; I believe it to be one of the Cranesbills, but I never saw one like it before.

“Will you tell me the best thing to do to a Geranium that is apparently very healthy, but has not blossomed this year? It all turns to leaves. It is one with a small, sweet-scented leaf, and was, during the spring stopped a good deal.—SIBYL.”

[Oh, Sibyl! what would you have thought of the ancient craft if we had recommended the *Félicité Perpétuelle* Rose for a “house” which turns out to be only a drawing-room, and the inside of one too? And, but too true it is, a real climber for that drawing-room has not yet been discovered. The Sweet-scented Geranium was stopped too late in the spring, and allowed too much root room afterwards, else all that class flower very freely. Keep it in the same pot it is in now till next June, and it will flower better than ever it did, and make a fine large specimen plant. It has got the gullet of Storkbills (nectariferous tube on the pedicels), which no Cranesbill has; it is, therefore, a Pelargonium, and is either *P. sanguineum*, or one very near it; but leaves

and stalks, and sometimes the roots, must be examined to determine the kind.]

COCKSCOMBS.

“Having lately been beaten with Scarlet Cockscombs, and having many reasons to think the prizes have not been given fairly, I send you a just description of them, and an answer to THE COTTAGE GARDENER will oblige a “Cottage Subscriber.” The winning Cockscombs were about nine inches high, about twelve inches broad each way (not the form I expect they ought to be), the foliage nearly all dried away, and the comb had commenced dying in several places. Mine were as fresh as could be wished for; the foliage as green as a leek, about the same height as the others, and about eighteen inches long by nine inches broad, the stems being a little thicker. It may be as well to let you know that the winning party was a judge in the booth, also, his brother, who awarded the prizes to the combs, both being exhibitors. I want also to know the good properties of a Cockscomb.—A COTTAGE SUBSCRIBER, *Durham*.

“P.S.—Some of our gardeners about here are selfish enough to say, What has the cottager to do with Cockscombs? Why not the cottager advance in the science as well as the gardener? If we take a delight in gardening, we ought not to be tied to Potatoes and Cabbages.”

[We cannot, from description, decide upon the merits of antagonist flowers; but we can say, without any reservation, that for an exhibitor to be a judge, and for the brother of that exhibitor to have awarded him a prize, were circumstances which should never occur at any exhibition. It must give rise to suspicion, and, more than that, the suspicion is justified. Length, and breadth, and colour of comb, and height and vigour of the plant are the chief points in the Cockscomb. The best of which we have a note was one foot high from the rim of the pot; comb, 31½ inches long and 14½ inches broad; the leaves were vigorous, and almost covered the rim of the pot.]

GRASS UNDER A PEAR-TREE.

“I have a large Pear-tree in my garden, and I can get nothing to grow under it. I have had in this season Stocks, Sweet Peas, Mignonette, Roses, &c., but they have all done very badly. Will you be so kind as to tell me what will do, so that it may look at all decent, and correspond with the other part?

“I mentioned Grass to my gardener, who is one of the old school, and he says that it would grow very rank under a tree.—SUBSCRIBER.”

[Grass would do well, and need not grow rank if turf with fine-growing Grasses is made use of. Get some Grass seeds from any great dealer in them, telling him the soil and situation, and asking him to send the appropriate kinds.]

TO CORRESPONDENTS.

PROPAGATING OLIVERANDERS (*J. S.*).—The young shoots that start from the base of the flower-stem will do if placed in a bottom-heat; the tops of young shoots that have not bloomed will answer better; failing these, the stems that bloomed last season will answer well, cut into lengths from six to twelve inches long, several of the lower leaves, if remaining, being removed, and the base cut across at a joint. The first two kinds of cuttings will strike best in moist, sandy soil in the usual way; the last kind will emit roots soonest in water, such as in a wide-mouthed phial, and the water frequently changed. All of them will root quickest by obtaining the assistance of a hotbed. Those struck in water should not remain long in it after roots are emitted, and they will require to be kept more moist afterwards, for a fortnight or so, than those struck in sandy soil. If you have a hothouse or hotbed, you cannot strike too soon in the spring. If you have no convenience but a greenhouse, it will be time enough to place them under a glass in the warmest part there in April. In the first case, you may obtain blooming shoots the following season; in the second case, you can hardly expect them until the second summer. The potting should proceed as soon as the plants are struck. Small pots should be used, and rather light compost, to encourage rooting; sand, leaf-mould, and peat may share with loamy ingredients in several first shiftings; as the plants progress in size and age, nothing is better than one part dried cow-dung to two of stiffish fibry loam, with a little charcoal. In all cases, where you expect bloom the following year, the last shift should be given by August.

NAMING PLANTS (*W. S.*).—If you send us flowers or leaves of the plants we shall name them as we do for others. Send them numbered,

and, if you keep duplicates similarly numbered, then you can easily apply the labels.

GOOSEBERRIES (J. B. Murdoch).—If you wish for the largest buy of *reds*, Wonderful and London; of *greens*, Thumper and Overhall; of *yellows*, Gunner; and of *whites*, Lady Leicester. If you wish for good dessert fruit, buy Rough Red, Red Champagne, Pitmaston Greengage, Roaring Lion, Rifleman, and Red Warrington. The last-named is the best for preserving.—The thirty-pound Orchard House is at Winchester, and was constructed by workmen residing there.

GARDEN PLAN (Rev. G. Cotton).—We never furnish plans, nor would a professed landscape gardener unless he had seen the place. If you refer to our back volumes you will find many plans, and you may from them select one you consider suitable.

ARTIFICIAL MANURES FOR STRAWBERRIES (A Constant Reader).—This is not the time for manuring them. Wait until the spring, about the end of March; then sprinkle a little guano (a dessert-spoonful) round each plant, covering the guano with a little earth. We know nothing of the artificial manure you mention.

EUGENIA UGNI (Mary C.).—It is a native of South Chili, abounding at Chiloe and the Islands in the Bay of Valdivia. It has the habit of the Myrtle, and is quite hardy at Exeter. It was introduced by Messrs. Veitch about the year 1850. It strikes freely from cuttings.

GARDEN PLAN (Kate).—We did not receive plan No. 2; four and one would not do, for this reason—that three beds of the same size in a row do not look well, and cannot be balanced in the planting *when they form part of a whole*. No. 3 is very good indeed, and we shall be pleased to hear how you settle about the planting of it. We shall keep it in hand for that purpose. We do not understand you about "mixed beds" being better than the "present bedding system." There never was a time when "mixed beds" were more in the fashion than just now. Mixed planting is a very different thing.

FUCHSIA SEEDLING (A Subscriber, Ashford, Kent).—Your Fuchsia blooms came safe and in good condition. The variety, as you say, is pretty, and, no doubt, the habit is good; but the flowers are so small that it is no improvement on varieties raised years ago. For instance, it is not handsomer than the old *F. globosa*, and the flowers are much smaller. If, however, it is very hardy, it may be useful as a bedding-out variety. We fear you will be disappointed with our opinion, but we must be candid in all such cases. Have you tried it planted in the flower-border or in a bed?

APRICOT AND PEACH, MODE OF BEARING (R.).—The Apricot bears fruit both on spurs and on the young wood; the Peach and Nectarine on the young wood. The specimen is *Pyrus intermedia*.

PEACHES AND NECTARINES FALLING (A Young Gardener).—Want of moisture at the root is the probable cause. Open a trench about three feet from the stem, put in a little decayed stable-dung, and fill the trench daily with water. When the crop is all off look to the roots of your trees, and see if they have not got down into some cold, stiff, retentive subsoil. If they have, cut off all those which have thus penetrated, and bring the others as near the surface as possible, and let them have a few barrow-loads of good, turfy, sandy loam.

VINES FOR UNHEATED GREENHOUSES (Birmingham).—In your cold, thirteen-feet-long greenhouse you may have two Vines, and we should plant two *Black Hamburgs*; or, if you prefer one white, substitute a *White Muscadine* for one of the Hamburgs. Plant them at the end of next month; they are sold in pots ready for the purpose.

NAMES OF GERANIUMS (J. H. M.).—This is *Cerise Unique*, which some prefer to *Lady Middleton* or *Trentham Rose*. It is put in the "place of honour" this season by Lady Middleton herself at Shrubland Park, as you will see in Mr. Beaton's report. The other you sent is the "Balm-leaf Geranium" of the flower-girls in Covent Garden Market; but it is a *Plectranthus* or a *Teucrium*.

DOUBLE COLUMBINES (Doctor's Boy).—The seeds you sent are highly valued by the receiver, who is very much obliged to you.

APPLES.—The Apples which were left at our office in a small paper parcel are the fruit of *Pyrus prunifolia*, an ornamental tree nearly allied to the Apple.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

COLLINGHAM, NEAR NEWARK. Oct. 21st. *Hon. Sec.*, E. Turton, Esq., South Collingham. Entries close Oct. 14th.

ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. *Secs.*, G. E. Attwood, and W. A. Warwick.

GLOUCESTERSHIRE. Nov. 26th and 27th. *Sec.*, E. Trinder, Esq., Cirencester. Entries close Nov. 1st.

LEOMINSTER. Thursday, October 16.

NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. *Sec.*, Richard Hawksley, jun. Entries close November 19th.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 13, 14, and 15. *Hon. Sec.* Frank Bottom. *Secretary to the Canary Department*, Jno. Hetherington, jun., Sneinton.

SOUTH WEST MIDDLESEX. Sept. 30th. At Hampton. *Sec.*, Mr. J. Gotelee, Hounslow.

N.B.—Secretaries will oblige us by sending early copies of their lists.

BIRMINGHAM POULTRY SHOW.

We understand that the Prize Lists and Regulations for the Eighth Annual Exhibition in this town of Stock, Roots, and Domestic Poultry, will be issued in the course of the

ensuing week. A meeting of the Council was held at the Hen and Chickens Hotel, New Street, on Thursday last, the Earl of LICHFIELD, the President, in the chair; and there were also present the Earl of Aylesford; Richard Spooner, Esq., M.P.; C. M. Caldecott, Esq.; Willoughby Wood, Esq.; William James, Esq.; Howard Luckcock, Esq.; Mr. Jeremiah Matthews; Mr. Henry Chamberlain; Mr. T. B. Wright; Mr. G. C. Adkins; Mr. John Lowe; Mr. Joseph Jemmens; Mr. Edward Glover; Mr. John Harlow; and Mr. Thomas Burbidge. Some changes were proposed and adopted in the prize lists, the general regulations of the Show, and with regard to the privileges of the subscribers and exhibitors, to which we shall more fully refer when the lists appear. The Exhibition was fixed to be held in the week commencing on the 1st of December next—one week before that of the Smithfield Club; the Council, in this respect, adopting the recommendation of the general meeting held in the Show week of last year. It was determined that the Council should meet weekly, on Thursday, during the present and two ensuing months, for the transaction of general business—an arrangement which can hardly fail to prove satisfactory. The financial state of the Society was also brought under the consideration of the Council, and a Committee appointed to organise a complete canvass of Birmingham and its neighbourhood for subscriptions. The accounts for the past year show a considerable deficiency in the receipts as compared with the expenditure, the unfavourable balance having, indeed, been accumulating for two or three years past. This has arisen principally from the circumstance that Bingley Hall has not been so much used as might have been fairly anticipated, and, consequently, the rent falling upon the Cattle Show for an Exhibition of only four days is too great for the Society to bear. The cost of fittings, especially in the new Poultry Bay, has also been very large, while the amount offered in prizes and medals last year exceeded one thousand pounds. At the same time, it must be stated that hitherto no sufficient efforts have been made to obtain that support from the inhabitants of Birmingham to which the Society, from the importance of its operations, is fully entitled.—(*Midland Counties Herald*.)

BRAHMA POOTRAS.

I HAVE frequently remarked of late in THE COTTAGE GARDENER that Brahma Pootras have been much cried down. Having kept a considerable number for three years, I ought to know something about their qualifications, and I have no hesitation in saying they are quite equal to any other Cochins in laying qualities, hardihood, and gentleness of disposition, and I am sure in colour the light Brahmas are far more attractive. People who see mine are always much struck with their elegance and beauty. As for their being a distinct breed, that I do not pretend to assert; but they certainly are a distinct colour from other Cochins when true bred. I find no difficulty in breeding them as I wish, either with regard to *comb* or *colour*.

As to Mr. Burnham's letter, copied into your paper of September 10th, I consider it simply ridiculous. I happen to know something of American poultry-dealing, and can easily imagine why *such* a letter was written by him.

I forgot to say I have eaten many of these despised Brahmas, and prefer them to Dorkings. When dressed like a Turkey at six months old, I venture to say a better dish can be put on no man's table.—EXPERIENTIA.

CASTOR-OIL A GOOD MEDICINE FOR FOWLS. —MERITS OF SPANISH FOWLS.

I NOTICE your correspondent's complaint respecting "mortality among chickens."

I have also lost several chickens this year, though I have succeeded in raising about forty, most of them hatched in March and April. Several I have, I believe, saved from dying by the simple use of castor-oil, which I have found effective in several instances where the chickens have been very ailing; and with old hens, also, I have found castor-oil a most useful remedy for several diseases.

I am but an amateur in the breeding of poultry; but the *Spanish* are decidedly my favourites. With ten hens my average supply of eggs has been seven per day for many months, and now most of them have begun to cast their feathers. From one hen I had about one dozen eggs, weighing each 4 ozs., and a little more in one or two instances. The average weight of the eggs generally has been 2½ ozs., which I imagine to be very good. The chickens also of this breed I have found easily fattened, and very tender for eating.

I am now taking great interest in poultry management, and look for the remarks in your paper under that head with great interest, and shall be happy at any future period to communicate to you anything I may think of interest or of use to your readers.

Your remarks respecting the feeding of *chickens* are very good. I have fed them upon groats, boiled rice, oatmeal, and bread, mashed small; and in their run they have plenty of green food, of which they are very fond.—CHESTER.

PRIZES AT THE ANERLEY SHOW.

Will the editor of THE COTTAGE GARDENER be kind enough to use his influence to try to ascertain when the prize money for the Anerley Poultry Show is likely to be paid?—AN EXHIBITOR, September 12, 1856.

[We hope that after this inquiry the prizes will be paid forthwith. It may be true, as we have heard, that the receipts at the Anerley Show fell far short of the expenses; but while we regret this, and sympathise with the members of the committee, yet these gentlemen cannot require to be reminded that they voluntarily undertook the risk, and that they are bound in honour to pay the prizes they held out to exhibitors to induce them to compete.—ED. C. G.]

DORSETSHIRE POULTRY EXHIBITION.

This was held at Dorchester on the 17th and 18th instant. We will publish our comments next week. The prizes awarded were as follows:—

A PIECE OF PLATE (Butter Dish), value £2 10s., given by John James Farquharson, Esq., President of the Society, to the owner, being a resident in the county of Dorset, and the breeder of the best Cinnamon or Buff Cochins-China Cock, of not less than one year old.—Joseph Goodenough, Godmanstone.

A PIECE OF PLATE (Soup Ladle), value £2 10s., given by J. J. Farquharson, Esq., President of the Society, to the owner, being a resident in the county of Dorset, and the breeder of the best Dorking Cock, of not less than one year old.—Mrs Henry Fookes, Whitchurch.

A PIECE OF PLATE (Mustard Pot), value £3, given by Sir Edward B. Baker, Bart., Vice-President of the Society, to the owner of the two best Pens of Ducks (Aylesbury and Rouen), each Pen to contain a Drake and two Ducks only.—John K. Fowler, Prebendal Farm, Aylesbury (Aylesbury and Rouen.) Highly Commended—Mrs Henry Fookes, Whitchurch.

A PIECE OF PLATE (Butter Dish), value £5, given by the Lord Rivers, to the owner of the best Pen of Game Fowls, shown in Classes 19, 20, 21, and 22.—James Crane, jun., Tolpuddle.

A PIECE OF PLATE (Egg Stand), value £3, given by H. K. Seymer, Esq., M.P., for the best Pen of Spangled Hamburg Fowls, shown in Classes 23, 24, 25, and 26.—G. Botham, Wexham Court. (Silver-spangled.)

A SILVER CUP WITH HANDLE (15 ozs. 12 dwts.), value £10 10s., given by Gerard Sturt, Esq., M.P., to the owner of the best Pen of Dorking Fowls, shown in Classes 3, 4, 5, and 6.—Lady Margaret Macdonald, Woolmer.

A PIECE OF PLATE (Cruet Stand), value £5, given by R. B. Sheridan, Esq., M.P., to the owner of the best Pen of Spanish Fowls, shown in Classes 1 and 2.—G. Botham, Wexham Court.

A PIECE OF PLATE (Two Centre Dishes), value £5, given by Thomas Coombs, Esq., Mayor of Dorchester, for the best Pen of Bantams shown in Classes 37, 38, and 39.—Joseph Goodenough, Godmanstone.

A PIECE OF PLATE (Cruet Stand), value £5, given by George Wingfield Digby, Esq., of Sherborne Castle, to the owner of the best Pen of Cochins-China Fowls, shown in Classes 7, 8, 9, 10, 11, and 12.—Mrs H. Fookes, Whitchurch.

A PIECE OF PLATE (Dessert Knives and Forks), value £3, given by Charles Porcher, Esq., for the best Pen of Pencilled Hamburgs, shown in Classes 27, 28, 29, and 30.—A. G. Brooke, Woodbridge, Suffolk.

A PIECE OF PLATE (Fish Knife and Fork), value £3, given by Hastings N. Middleton, Esq., for the best Pen of Brahma Pootra Fowls, shown in Classes 13, 14, 15, and 16.—Mrs Sheppard, Tulse Hill, London.

A PIECE OF PLATE (Pair of Salt Cellars), value £3, given by Herbert Williams, Esq., for the best Pen of Malay Fowls, shown in Classes 17 and 18.—W. Rogers, Woodhridge.

A PIECE OF PLATE (Centre-piece), value £3, given by the Committee, for the best Pen of Poland Fowls, shown in Classes 31, 32, 33, 34, 35, and 36.—Mrs G. Coleridge, Eton, Windsor. (Silver-spangled.)

Class 1.—SPANISH.—First, G. Botham, Wexham Court. Second, John R. Rodbard, Aldwick Court. Class 2.—*Chickens* of 1856.—First, John R. Rodbard, Aldwick Court. Second, Lady Margaret Macdonald, Woolmer. Highly Commended—Geo. W. Locke, Newport, Isle of Wight. G. Botham, Wexham Court. (Very good class.)

Class 3.—DORKING (Coloured).—First, Robert Loder, The Beeches, Sussex. Second, Mrs Henry Fookes, Whitchurch. Highly Commended—W. W. Vernon, Wolsely Hall, Stafford. Class 4.—*Chickens* of 1856.—First, Lady Margaret Macdonald, Woolmer. Second, G. S. Fox, The Court, Wellington. Highly Commended.—G. Botham, Wexham Court. Mrs Henry Fookes, Whitchurch. (An excellent class.)

Class 5.—DORKING (White).—First, Wm. Symonds, jun., Milborne St. Andrew. Second, Mrs. Henry Fookes, Whitchurch. Highly Commended—Mrs C. Besant, Milborne St. Andrew. Commended—G. F. Hodson, North Petherton. Class 6.—*Chickens* of 1856.—First, Wm. Symonds, jun., Milborne St. Andrew. Second, Henry Bone, Avon, near Ringwood. Highly Commended—Henry Bone, Avon, near Ringwood. (All remarkably good.)

Class 7.—COCHIN-CHINA (Cinnamon and Buff).—First, Mrs Henry Fookes, Whitchurch. Second, Jas. Crane, jun., Tolpuddle. Class 8.—*Chickens* of 1856.—First, Mrs Henry Fookes, Whitchurch. Second, Joseph Goodenough, Godmanstone. Commended—J. W. Kellaway, Ryde, Isle of Wight. Mrs Henry Fookes, Whitchurch. (Very good class.)

Class 9.—COCHIN-CHINA (Brown and Partridge-feathered).—First, G. C. Adkins, Edgbaston. Class 10.—*Chickens* of 1856.—First, G. F. Hodson, North Petherton. Second, John R. Rodbard, Aldwick Court.

Class 11.—COCHIN-CHINA (White).—First, G. F. Hodson, North Petherton. Second, John R. Rodbard, Aldwick Court. Class 12.—*Chickens* of 1856.—First, Henry Loe, jun., Appuldurcombe, Isle of Wight. (Second prize withheld.)

Class 13.—PENCILLED BRAHMA POOTRA.—First, G. Botham, Wexham Court. (Second prize withheld.) Class 14.—*Chickens* of 1856.—First, G. Botham, Wexham Court. Second, Christopher Dain, Southampton.

Class 15.—LIGHT BRAHMA POOTRA.—First, William Manfield, jun., Dorchester. (Second prize withheld.) Class 16.—*Chickens* of 1856.—First, Elizabeth Sheppard, Upper Tulse Hill, London. (Second prize withheld.)

Class 17.—MALAY.—First, William Rogers, Woodhridge. Second, James Leighton, Cheltenham. Class 18.—*Chickens* of 1856.—First and Second, Chas. Ballance, Taunton. (Good classes.)

Class 19.—GAME FOWL (Black, Black-breasted, and other Reds).—First, James Crane, jun., Tolpuddle. Second, Wm. Manfield, jun., Dorchester. Class 20.—*Chickens* of 1856.—First, Thomas L. Fellowes, Beighton Rectory. Second, J. T. Ensor, Dorchester.

Class 21.—GAME FOWL (Any other colour).—First, John R. Rodbard, Aldwick Court. Class 22.—*Chickens* of 1856.—First, J. T. Ensor, Dorchester. (Second prizes withheld.)

Class 23.—GOLDEN-SPANGLED HAMBURGH.—First, Mrs G. Coleridge, Eton, Windsor. Second, G. C. Adkins, Edgbaston. Class 24.—*Chickens* of 1856.—First, James Crane, jun., Tolpuddle. Second, J. K. Bartrum, Bath.

Class 25.—SILVER-SPANGLED HAMBURGH.—Second, William Symonds, jun., Milborne St. Andrew. Class 26.—*Chickens* of 1856.—First, George Botham, Wexham Court. Second, J. K. Bartrum, Bath.

Class 27.—GOLDEN-PENCILLED HAMBURGH.—First, Mrs Mills, Bisterne. Second, William Manfield, jun., Dorchester. Class 28.—*Chickens* of 1856.—First, A. G. Brooke, Cumberland St., Woodhridge, Suffolk. Second, J. K. Bartrum, Bath. Highly Commended—G. Botham, Wexham Court.

Class 29.—SILVER-PENCILLED HAMBURGH.—First, Thomas L. Fellowes, Beighton Rectory. Class 30.—*Chickens* of 1856.—First, Edward Archer, Malvern. Second, Mrs Mills, Bisterne.

Class 31.—POLAND FOWL (Black and White Topknots).—First, G. C. Adkins, Edgbaston. Second, T. P. Edwards, Lyndhurst. Class 32.—*Chickens* of 1856.—First, T. P. Edwards, Lyndhurst. Second, Joseph Warr, North Allington. (Good class.)

Class 33.—POLANDS (Golden-spangled).—First, Mrs Mills, Bisterne. Second, Wm. Symonds, jun., Milborne St. Andrew. Class 34.—*Chickens* of 1856.—First, Mrs Pettat, Ashe, near Micheldever. Second, Jas. Crane, jun., Tolpuddle. (Capital class.)

Class 35.—POLANDS (Silver-spangled).—First, Mrs G. Coleridge, Eton, Windsor. Second, T. P. Edwards, Lyndhurst. Class 36.—*Chickens* of 1856.—First, George C. Adkins, Edgbaston. Second, Mrs G. Coleridge, Eton, Windsor. Highly Commended—James Crane, jun., Tolpuddle.

Class 37.—BANTAMS (Gold-laced).—First and Second, Joseph Goodenough, Godmanstone. Highly Commended—Thomas P. Mew, Isle of Wight. Matthew Leno, Harpenden. Commended—James Crane, jun., Tolpuddle.

Class 38.—BANTAMS (Silver-laced).—First and Second, Mrs C. Pettat, Ashe, near Micheldever.

Class 39.—BANTAMS (Black, White, or any other variety).—First, T. J. Cottle, Pulteney. Second, Thos. P. Mew, Isle of Wight.

Class 40.—FOR ANY OTHER PURE BRED VARIETY NOT BEFORE

MENTIONED.—First, Mrs Mills, Bisterne. (White Polands.) Second, Mrs Mills, Bisterne. (Black Cochins.) Highly Commended—Wm. Manfield, jun., Dorchester. (Unknown.) Commended—Countess Dowager of Macclesfield. (Japan Silky Fowl Bantams.) Mrs Mills, Bisterne. (Andalusians.)

Class 41.—GEESE (Of any breed).—First, John K. Fowler, Prebendal Farm, Aylesbury. Second, Wm. Manfield, jun., Dorchester. Highly Commended—Mrs Henry Fookes, Whitechurch. T. P. Edwards, Lyndhurst. Commended—Wm. Manfield, jun., Dorchester.

Class 42.—DUCKS (Aylesbury).—First, John K. Fowler, Prebendal Farm, Aylesbury. Second, Henry Loe, jun., Appuldrecombe, Isle of Wight.

Class 43.—DUCKS (Rouen).—First, Mrs Henry Fookes, Whitechurch. Second, Jas. Crane, jun., Tolpuddle. Highly Commended—John K. Fowler, Prebendal Farm, Aylesbury.

Class 44.—DUCKS (Any other variety).—First, James Crane, jun., Tolpuddle. (Buenos Ayres.) Second, John K. Fowler, Prebendal Farm, Aylesbury.

Class 45.—TURKEYS (Of any breed).—First, Lady Margaret Macdonald, Woolmer. Second, Mrs Henry Fookes, Whitechurch. Highly Commended—William Manfield, jun., Dorchester.

THE LATE WILLIAM YARRELL.

EARLY on Sunday morning, August the 17th, at Yarmouth, whither he had gone from London by sea for a summer trip, died suddenly of ossification of the heart, at the age of seventy-two, the good old British sportsman and naturalist, William Yarrell. Our roll of English zoologists does not boast of a name more honoured for his researches into the habits of the fauna of his country, so far as regards birds and fishes, or more respected for his uprightness and genial companionship, than that of the lamented Yarrell; and the style in which the results of his agreeable labours have been published to the world presents a model of kindly, unobtrusive diction, choice woodcut illustration, and typographic neatness. The life of William Yarrell was not one of much variety. Born in 1784, in Duke-street, St. James's, where his father carried on the business of a newspaper agent, his only removal was to a neighbouring house at the corner of Ryder-street. There he continued the business in partnership with a gentleman whose father had been also a partner with Yarrell's father, and in this house he dwelt unmarried, with natural history collections about him, till the day of his death. He entered the banking-house of Herries, Farquhar, and Co., as clerk, in 1802, but returned at the end of six months to his father. Mr. Yarrell's taste for natural history pursuits began first to develop itself in a love of angling. The streams in the vicinity of London often tempted him forth, as a boy, to a day's fishing; and the perusal of old Izaak Walton's charming letters served to divert his pastime into the valuable practical direction which it subsequently took. From fishing, William Yarrell was led to the sport of shooting, and became one of the first marksmen of his day. He formed in early life an intimacy with Manton, the famous gunmaker, and with Shoobridge, the well-known hatter of Bond-street, better known, however, among sporting men as an unerring shot. Shoobridge and Yarrell made frequent excursions into the country together, and shot in company for many years. Shoobridge shot in matches, and not unfrequently for heavy stakes. Yarrell, who was thought by some to be the better shot of the two—for he would bring down a dozen brace of sparrows from the trap, with his double-barrelled Manton, running—never wagered beyond shooting for a gun, a pointer, or a sporting picture. During this time William Yarrell had been forming valuable collections of fishes, birds, and birds' eggs, studying and making notes of their habits, when, at about the age of forty, he may be said to have laid down the rod and gun for the pen. On the 25th of March, 1825, he addressed to the conductors of the *Zoological Journal* his first composition, consisting of "Notices of the Occurrence of some Rare British Birds, observed during the Years 1823, '24, and '25." Having made the acquaintance of several zealous naturalists, among whom we mention Vigors, Swainson, and E. Bennett, he was elected, in 1825, a Fellow of the Linnæan Society, and in 1827 communicated to the Society's "Transactions" a paper entitled, "Observations on the Tracheæ of Birds, with Descriptions and Representations of several not hitherto figured." Later in the same year he presented to the Royal Society a paper "On the Change in the Plumage of some Hen-Pheasants," which was printed in the "Phi-

losophical Transactions." Notwithstanding, however, the Council of the Royal Society considered Mr. Yarrell's paper worthy of a place in their "Transactions," the author was never elected to the Fellowship. He was recommended for election, but, owing to the corrupt practice of disregarding the scientific claims of gentlemen connected with trade, it was intimated to Mr. Yarrell that he had no chance of success, and he withdrew his certificate. In 1829 Mr. Yarrell communicated to the Linnæan Society the "Description of a New Species of *Tringa*, killed in Cambridge-shire, new to England and Europe;" and the following year two papers "On the Organs of Voice in Birds," and "On a New Species of Wild Swan taken in England." About this time the Zoological Club of the Linnæan Society, of which Mr. Yarrell had for six years been an active member, became the foundation of the present Zoological Society, and his exertions for this Society's welfare were continued with unremitting zeal to the last. He was a frequent contributor to its "Proceedings," and the three following papers, read in 1833 and 1835, were selected for publication in its "Transactions:"—"Observations on the Laws which appear to influence the Assumption and Changes of Plumage in Birds;" "Description, with some additional Particulars, of the *Apteryx Australis* of Shaw;" and "Some Observations on the Economy of an Insect destructive to Turnips." To the Linnæan Society's "Transactions" he further contributed, in 1834, "Description of the Organ of Voice in a New Species of Wild Swan," and "Description of three British Species of Fresh-water Fishes, belonging to the genus *Leuciscus*," and in 1853 a paper "On the Habits of the Great Bustard." His last and only remaining paper, published by the Linnæan Society, "On the Influence of the Sexual Organ in Modifying External Character," appeared during the present year, in the newly-arranged *Journal of Proceedings*. Mr. Yarrell contributed largely to the *Zoological Journal* and to the *Annals and Magazine of Natural History*, including, among other subjects, the discovery, in conjunction with Mr. Jesse, of the oviparous propagation of the eel, and of the specific identity of the whitebait; but the grand work of his life was the production, during the years 1830-40, of the two well-known "Histories of British Birds and British Fishes," published by Mr. Van Voorst, who lived on terms of great friendship with him, and was selected by him as one of his executors. In 1849 Mr. Yarrell was elected a Vice-President and Treasurer of the Linnæan Society, and the members subscribed for a portrait of him in oil, which is suspended in the Society's meeting-room. Notwithstanding his retired manners and extremely punctual habits, Mr. Yarrell was a frequent diner-out and jovial companion at table. He sang a capital song, and was a constant attendant at the theatre, generally selecting, with the gusto of a *dilettante*, the front row of the pit. In the days of the elder Mathews he would manage to get the songs of the great mimic, in spite of the rapidity of their utterance, by taking down the alternate lines one night, and filling in the others on the next. A song of Dibdin's we heard him sing only recently with admirable spirit and pathos. He seldom missed attending the Linnæan Club dinners and country excursions, and was at all times among the liveliest of the party. In the present year he took an active part in the Linnæan excursion to Guildford. In addition to his collection of British natural history, Mr. Yarrell possessed a valuable library of books on the subject, but he has not made any public bequest of either. His remains have been brought to London, and will be buried with those of his family at Bayford, in Herefordshire.—(*Literary Gazette*.)

DARESURY AND FRODSHAM FARMERS' CLUB, COMBINED WITH THE RUNCORN LOCAL POULTRY EXHIBITION.

THIS, held at Runcorn on the 18th, proved a very interesting and excellent Exhibition, most of the principal exhibitors of poultry competing, and the general arrangements were carried out most efficiently by a very painstaking committee; hence all the visitors present were perfectly well satisfied. As a natural consequence of the season, many of the adult specimens were somewhat out of condi-

tion, and were, consequently, but ill fitted to compete with chickens of the present year; still, scarcely a single indifferent pen was to be found throughout the whole collection. The tent was the one lately used by the committee of the Prescott Poultry Show, and the pens were hired for the occasion also from the same body of gentlemen. In *Grey Dorkings*, the noted yard of Wm. Wright, Esq., swept away the prizes *in toto*, and thus added another Silver Cup as trophies to their extreme merits, in addition to the very many that already graced the sideboard of that really enthusiastic amateur. We admit we are astonished at the long-continued and excellent condition in which they are always shown, which bespeaks much for their good management. The Silver Cup *Spanish* were extraordinarily fine specimens. *Cochins* were not so good as we generally met with a few years back, but the *white* ones far surpassed the other varieties. It would really be invidious to particularize any individual pen of *Hamburghs*; all were very superior; indeed, the whole class of *Golden-spangled Hamburghs* were the best collection we remember to have witnessed for some years. The *Silver Poland* chickens were especially deserving of the honours conferred upon them. *Game* were good, but many quite out of condition from moulting. The *Bantams* were excellent, and the same remark is still more deserved (if possible) by both the *Aylesbury* and the *Rouen Ducks*. In fact, it is many years since so excellent a collection of Ducks of either kind was exhibited. The *Geese* and *Turkeys*, also, were worthy of our highest commendation. The weather during the early morning proved anything but inviting to sight-seers. Still, about eleven, the atmosphere becoming perfectly clear and the rain abating, the company was both numerous and highly respectable, and we trust the Exhibition will prove by far one of the most lucrative that this society has yet held—a result which the committee richly deserve, for their careful attention to the valuable poultry entrusted to them.

Judge, Mr. Edward Hewitt, of Sparkbrook, Birmingham.

DORKINGS.—Silver Cup and Second, William Wright, West Bank. Highly Commended—J. L. Wright, Runcorn. J. B. Neilson, Doebank, near Liverpool. Commended—Mr John Copple, Eccleston. (The Dorkings unusually good.) *Best Pen of Dorkings, confined to the district.*—Prize, G. Greenall, Esq., M.P., Walton Hall.

SPANISH.—Silver Cup, Joseph Tate, Syke Hill, near Warrington. Second, W. W. Brundrit, Runcorn. Commended—George Fell, Warrington.

COCHIN-CHINA (Cinnamon or Buff).—First, Robert Chase, Moseley Road, Birmingham. Second, William Copple, Eccleston. Commended—Thomas Stretch, Marsh Lane, Bootle.

COCHIN-CHINA (Any other variety).—Silver Cup and Second, Robert Chase, Moseley Road, Birmingham. Commended—Richard Teebay, Fulwood, near Preston. John Fowler, Aylesbury. *For the best Pen of Cochins, confined to the district.*—Prize, T. T. Rigby, Sutton.

GOLDEN-SPANGLED HAMBURGHs.—Silver Cup, W. C. Worrall, Knotty Ash, Liverpool. Second, Mr H. Swann, Farnsfield, near Southwell.

GOLDEN-PENCILLED HAMBURGHs.—Silver Cup and Second, W. Bankes, Weston, near Runcorn. Commended—James Fletcher, Stoneclough, near Manchester. Daniel Hrisoan, Kendal. (A very excellent class.)

SILVER-SPANGLED HAMBURGHs.—First, Thomas Burnett, Hutton, near Preston. Second, Richard Teebay, Fulwood, near Preston.

SILVER-PENCILLED HAMBURGHs.—First, Wm. Wright, West Bank. Second, Edward Archer, Malvern. Highly Commended—W. C. Worrall, Knotty Ash. Commended—Thomas Burgess, Barley Dam.

GOLDEN POLANDs.—First and Second, J. F. Greenall, Grappenhall. **SILVER POLANDs.**—Silver Cup, G. Fell, Warrington. Second, J. F. Greenall, Grappenhall. (The competition in this class very good.)

GAME (Black-breasted and other Reds).—Silver Cup, Capt. Hornby, R.N., Knowley. Second, J. Fletcher, Stoneclough, near Manchester. Commended—Henry Beswick, Runcorn.

GAME (Any other variety).—First, John Wright, Ashbourne. Second, R. C. Whiteway, Runcorn.

BANTAMS (Gold and Silver-laced).—First and Second, William Wright, West Bank. Highly Commended—John Wright, Ashbourne. (A very good class.)

BANTAMS (Any other variety).—Second, Ephraim Wood, Bradford. (First prize withheld.) *For the best Pen of Poultry, any breed, confined to the district.*—Prize, John Welkis, Appleton.

AYLESBURY DUCKs.—First and Second, John Weston, Aylesbury. (An extraordinarily good class.)

ROUEN DUCKs.—First, Thomas Bankes, Weston. Second, J. R. Neilson, Liverpool. Commended—John Weston, Aylesbury. W. W. Brundrit, Runcorn. W. Copple, Eccleston. (A meritorious class.) *For the best Pen of Ducks, confined to the district.*—Prize, T. Bankes, Weston. (Rouen Ducks.)

GESE.—First, William Pritchard, Woodside. Second, W. Tipping, Halton. Highly Commended—Mr Copple, Eccleston. *For the best Pen of Geese, confined to the district.*—Prize, William Pritchard, Sutton. Highly Commended—William Tipping, Halton.

TURKEYs.—First, Capt. Hornby, R.N., Knowley. Second, Thomas Johnson, Runcorn. *For the best Pen of Turkeys, confined to the district.*—Prize, Samuel Lees, Newton by Daresbury.

OUR LETTER BOX.

TIME FOR GIVING OATS (*A Subscriber*).—Give Oats or any other grain in the morning, and soft food at night. If fowls have a good run, or an ample supply of green food, they require to be fed only twice a day. You cannot move your *Bees* the thirty yards without a certainty of losing many of them. Take them now to a friend's a mile or two off, and bring them back to your south aspect in the spring.

WARNING A POULTRY-HOUSE (*A Subscriber*).—It is injurious because it renders the chickens tender, and unnaturally promotes their growth. Experience has proved it to be so. Cottagers' houses are not warmer than a dry, sheltered, well-built poultry-house. The amount of *Barley-sugar* to be given to *Bees* depends upon the weight of honey they have stored. Unless they have about 20 lbs. they have not sufficient until the spring-flowers come again.

KEEPING POULTRY DISTINCT (*W. B.*).—Your only plan will be to let each variety have a separate roosting and laying place, with an enclosure in front of each, letting each variety have a run at large in turn for a few hours daily. If they are out together they will interbreed.

RICE FOR LAYING HENS (*Mary C.*).—Neither boiled nor raw is it good for them, unless, by laying soft eggs or from other symptoms, it appears that their egg-system or passage is inflamed. Rice has little or no nourishment in it. It may help to counteract the ill effects of such a disease-fraught diet as "meat and fish well-peppered." If your Black Polish long thrive upon such food we shall be much surprised. It is forcing and exhausting.

CHICKENS DYING SUDDENLY (*E. W.*).—The symptoms were those of a blood-vessel having burst upon the brain. High-feeding and much confinement usually cause this. Bleeding sometimes gives relief; and low diet, with more exercise, will then sometimes prevent a relapse.

BOLTON GREY (*J. Sumner*).—This is a local name for the *Silver-pencilled Hamburgh*. Your white cock with a double comb, probably, is a *White Dorking*.

POULTRY BOOK (*A Two Years' Subscriber*).—We know nothing about the second edition. We are in no way responsible for it.

LONDON MARKETS.—SEPTEMBER 22ND.

COVENT GARDEN.

In consequence of the full employment now afforded in the Hop grounds, we have not had so large a supply of fruit from the Kent districts, but otherwise it is about the same. From the Continent there has been large importations during the week, the greater portion of which has passed under the hammer, realizing fair prices. The *Pears* consist of *Beurre d'Amant*, *Crassane*, *Bonne Louise*, and *Gratote*—also a few *Marie Louise*. There has also been some excellent *Water Melons* from Denia and Lisbon, far superior in quality to the worthless Dutch *Melons* brought over in such quantities. *Peaches* and *Nectarines* abundant.

FRUIT.

Apples, kitchen, per bushel.....	8s. to 12s.	Parsnips, per doz....	6d. to 9d.
„ dessert „ „ „	12s. „ 20s.	Beet, per doz.....	1s. to 1s 6d.
Pears, per dozen „	1s. „ 3s.	Potatoes, per cwt. „	3s. to 6s.
Peaches, per doz. „	3s. „ 6s.	„ Frame, per lb. „	6d. „ 0d.
Nectarines, do. „	2s. „ 4s.	„ New, per lb. „	0d. „ 0d.
Pine-apples, per lb. „	4s. „ 6s.	Onions, Yng, per bunch „	4d. „ 6d.
Hothouse Grapes, per lb. „	3s. „ 6s.	„ Old, per bushel „	0s. „ 0s.
Strawberries, per lb. „	0d. „ 0s.	Turnips, per bunch „	3d. „ 6d.
Foreign Melons, each „	1s. „ 3s.	Leeks, per bunch „	2d. „ 3d.
English Melons „	1s. „ 4s.	Garlic, per lb. „	6d. „ 8d.
Morello Cherries, per lb. „	1s. „ 2s.	Horseradish, per bundle „	1s. 6d. to 2s. 6d.
Cherries, per lb. „	0d. „ 0s.	Shallots, per lb. „	6d. to 1s.
Oranges, per 100 „	10s. „ 20s.	Lettuce, Cos, per score „	1s. „ 2s.
Seville Oranges, do. „	0s. „ 0s.	„ Cabbage, per doz. „	0d. „ 3d.
Lemons „	10s. „ 15s.	Endive, per score „	0s. 0d. „ 0s.
Almonds, per lb. „	9d. „ 1s.	Celery, per bunch „	9d. to 1s. 6d.
Nuts, Filberts, per lb. „	9d. „ 1s.	Radishes, Turnip, per dozen bunches „	— to 6d.
„ Cobs, ditto „	9d. „ 1s.	Water Cresses, ditto „	6d. „ 9d.
„ Barcelona, per bushel „	20s. „ 22s.	Small Salad, per punnet „	2d. „ 3d.
Nuts, Brazil, ditto „	12s. „ 14s.	Artichokes, per lb. „	— „ 2d.
Walnuts, per 1000 „	9s. „ 12s.	Asparagus, per bdl. „	0s. „ 0s.
Chestnuts, per bushel „	0s. „ 0s.	Spar-kale, per punnet „	— „ —

VEGETABLES.

Cabbages, per doz. „	1s. to 1s. 6d.	HERBS.	
„ Red, per doz. „	2s. to 4s.	Basil, per bunch „	4d. to 6d.
Cauliflowers, each „	2d. „ 4d.	Marjoram, per bunch „	4d. „ 6d.
Broccoli, per bdl. „	0d. „ 0d.	Fennel, per bunch „	2d. „ 3d.
Savoy „	0s. „ 0s.	Savory, per bunch „	2d. „ 3d.
Greens, per doz. bunch „	2s. „ 4s.	Thyme, per bunch „	2d. „ 3d.
Spinach, per sieve „	— „ 4s.	Parsley, per bunch „	2d. „ 3d.
French Peas, per bush. „	0s. „ 0s.	Mint, per bunch „	2d. „ 4d.
French Beans, per hlf. sv. „	1s. 6d.	Green Mint „	6d. „ 8d.
Carrots, per bunch „	4d. to 6d.		

POULTRY.

The only difference we have to note in our market report is, that young Grouse are scarcer than they were ever known to be.

Large Fowls „	4s. 0d. to 4s. 6d. each.	Hares „	2s. 6d. to 3s. 0d. each.
Smaller do „	3s. 0d. to 3s. 6d. „	Ducks „	3s. 0d. to 3s. 6d. „
Chickens „	2s. 0d. to 2s. 6d. „	Geese „	6s. 0d. to 6s. 6d. „
Grouse „	4s. 0d. to 4s. 6d. „	Pigeons „	8d. to 9d. „
Partridges „	1s. 9d. to 2s. 0d. „	Rabbits „	1s. 4d. to 1s. 5d. „
Leverets „	3s. 6d. to 4s. „	Wild ditto „	10d. to 1s. „

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPT. 30—OCT. 6, 1856.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
30	Tu	The slender treble bar Moth.	29.503—29.423	68—47	S.E.	.10	1 a 6	39 a 5	5 a 57	1	10 8	274
1	W	The death's-head Moth.	29.529—29.496	64—40	S.W.	.02	4	36	6 9	2	10 27	275
2	Th	The connecting umber Moth.	29.611—29.564	65—40	W.	.12	5	34	6 23	3	10 46	276
3	F		29.707—29.517	62—50	S.	.36	6	32	6 42	4	11 5	277
4	S	The streak Moth.	29.360—29.280	68—47	S.W.	.70	8	29	7 9	5	11 23	278
5	SUN	20 SUNDAY AFTER TRINITY.	29.351—29.331	56—50	S.W.	.82	9	27	7 49	6	11 40	279
6	M	The common plume Moth.	29.351—29.282	65—51	S.	.11	11	25	8 44	7	11 58	280

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 62.8°, and 42.8°, respectively. The greatest heat, 80°, occurred on the 5th, in 1834; and the lowest cold, 27°, on the 2nd, in 1853. During the period 90 days were fine, and on 106 rain fell.

CRYSTAL PALACE.—SEPTEMBER 11TH.

(Continued from page 452.)

THERE are few things requiring more careful consideration, prudent forethought, and a clearer perception of ultimate results, and the grouping and blending of these with surrounding circumstances, than the fixing on sites for gardens, mansions, and ornamental buildings. For want of a thorough appreciation even of the minutiae of detail the greatest artists have sometimes committed great errors, so great that the humblest man, without a hundredth part of their genius and intelligence, cannot but perceive them. Hence we find gardens that cannot be supplied with water but at an expenso that sets adrift all the maxims of a severe economy; and others, again, from which early productions are expected, inclining to the north, and in a position where they are sure to be visited by early autumn and late spring frosts. Hence, again, we find mansions at times from which the finest views of the surrounding scenery are excluded, as if on purpose they should merely be seen from some sequestered corner of the demesne; or we find a beautiful lake formed at great expense, but holding such a relative position to the mansion that the residents there must ascend pretty well to the roof before they are cheered with the expanse of its calm or rippling waters. I know little or nothing of the history, and very likely the difficulties attending the choosing of such a position at Sydenham for the glorious Crystal Palace; but the first view from its garden-front over that splendid landscape in the garden of England, with its valleys, undulations, and rising grounds in the distance, and just so richly clothed with fine timber as to bring into suggestive relief the cottages, villages, mansions, and churches, on which the eye of the poet, the painter, and the moralist would love to linger—that first view would demonstrate that the choosers of that site had a fine taste for the picturesque and the beautiful, and were benevolently resolved that thousands upon thousands should share it with them.

That splendid landscape in the distance, the sight of the pre-Adamite animals, as seen from the railway, sunning themselves by the lake at the lowest part of the ground, *now that they are there*, and over which position, when standing at the Palace, the eye passes to the landscape beyond, and the unique grandeur of the Palace itself, furnish as it were the key-notes for three separate kinds of gardening, not barshly defined, but blending into each other, and yet producing variety by their united distinctness. These distinct styles will at once be seen to be the artistic gardenesque in the immediate neighbourhood of the Palace; the simply gardenesque beyond, melting as it were into the dressed picturesque; and that distinct from, owing to the materials used, but still harmonising with, the surrounding landscape, and that dressed picturesque blending into the rough, wild romantic, as, in some measure, in unison with the animal life of a previous system, and concealing the specimens until the visitor is brought upon them suddenly.

These ideas seem to have been the groundwork of the designer of these gigantic operations. These, as a whole, are not sufficiently matured to invite criticism. There is yet but little done at the lowest part of the ground, which should be a specimen of the wild and natural style of gardening, as opposed to the dressed and the artificial, though the attempt must not be made to hide the fact that the art of man, and not Nature, has produced the romantic spot; and this idea seems to be carried out so far as the works have progressed. It would be vain in our climate to attempt to place these monsters amid the vegetation in which, most likely, they had basked and wandered, though the Ferns and other plants of our coal-fields might supply materials for grouping them in pictures in the building itself. On this account many would object altogether to these ancient animals being where they are; but none can object to that part of the grounds being devoted to the romantic and the wild in scenery, and thus forming a striking contrast, when examined, to the dressed picturesque of the chief part of the grounds, and the natural picturesque of the surrounding landscape. To carry out this idea, as well as for the general management of such a vast establishment, great sums of money must be requisite—more, very likely, than the funds at present would bear; but, instead of wishing with many that the Palace was made a national or government concern, I would trust that there is yet enough of public spirit and the felt responsibilities of gratitude for benefits received, even in the higher style of refinement in gardening produced, and the impetus given to artistic design by this noble institution, to induce thousands upon thousands of our country gentry and rich manufacturers and merchants to become life holders of annual and season tickets.

There is an old proverb, that "children and fools should never see half-finished work," and another to the effect that a person who could do nothing of the kind himself might yet be able to detect a flaw or an error in a great man's work. Comparatively few gardeners would have had grasp of mind enough to know what to do with such a gigantic undertaking; but many, like myself, might have nerve enough to examine and pass an unbiassed opinion upon points of detail. Having mislaid what few notes I took for my own peculiar benefit, my recollection seems to present three ideas of the middle or picturesque-dressed grounds.

The first was, that the planting of the ornamental trees and shrubs could not yet be finished; the second was, that the attempts made to combine existing parts of the park, when taken possession of with the dressed picturesque, were so well done as to leave nothing to be desired; and the third was, that in this dressed picturesque, part of the grounds there was too much of a dotting and scattering here and there of flower-beds to secure a unity of expression, though, for anything I know, the practical designer might here be forced to yield the promptings of his better judgment to the cravings of the Londoners to have beds and rings of

flowers in every conceivable position. Our own impression is, that the flowers would have been more effective if thrown into massive groups on the terraces and the grounds immediately contiguous.

These terraces may be considered in a more finished state, and to a few points of detail I will now allude, and, for saving space, select that part immediately in front of the central transept, hoping I shall not be deemed presumptuous if I do not coincide in the propriety of all the modes adopted, though sanctioned by the highest authorities, and one of them especially eloquently recommended by a much-valued coadjutor in these pages.

Taking our stand-point, then, in front of the building, before we examine the arrangements of the terrace beneath us, there are two things that forcibly strike our attention. The first is, the extreme unique gorgeousness produced by the large vases filled with Scarlet Geraniums, placed at something like regular distances along the balustrades and the corners of the massive stone steps connecting the terraces together. Considering that the Palace, with the exception of the glass, presents, as a whole, a white and blue colour, that the balustrading is a dark stone, and the vases themselves a soft creamy colour, nothing could tell so powerfully as these balls of scarlet, and all one shade of colour. Much of this gorgeousness was, no doubt, owing to the super-excellent cultivation the plants had received. Every vase was a gem; but two that stood between the double staircases in front of the transept were, in the words of a great gardener, who riveted his eyes on them, "super-excellent." He appealed to me if I could add a single truss or floret with advantage, and I candidly answered, "No." I know not, so far as I am aware, one single person employed in the Palace, or I might have tried to elicit some of the minutiae of management for the benefit of our readers. We do such things very creditably in the country, but we seldom see them so fine as these for any length of time. There can be no question that the one scarlet colour is the right colour in the right place for those vases so near the Palace. In the case of those farther removed, it may be an open question whether fringing and edging them with other colours would not be an advantage.

The second is the immense width of the main walk—100 feet, I believe—and the extra profusion of gravel walks seen in every direction, many of which, however, will be partly concealed as the trees and shrubs grow. I am well aware of the importance of plenty of walks where such numbers of people congregate; but it is quite possible to overdo them. In some pleasure-grounds you can at once observe several series of walks, though the one might as easily be concealed from the other, just as if there was something really beautiful in a line of gravel separating a velvet glade of turf. From the throngs that may be anticipated, we can hardly expect the Crystal Palace to present a perfect example for country residences in this respect. Much would be done were we once convinced that the beauty of a gravel walk, however well kept, consists chiefly, not in being seen from a distance, but in its fitness and appropriateness for easy and comfortable locomotion.

The same fact should, to a great extent, regulate its width. For two years the width of this main walk, and its consequent grandeur, have been dinned into my ears by visitors. "These walks are very nice, Mr. F.; but you must go to Sydenham to see walks." Well, I cannot say I am so delightfully astonished. Given the presence of from 100,000 visitors and upwards a day, and the masses on that walk would show its appropriateness as respects its width. On the 11th there were only about 25,000, and there was an extra attraction inside the building. That may account for the fact that twice during the day I did not see a single person upon it from the Palace to the extreme end, just behind where the

romantic, wild scenery is to be clustered, and at which end, by-the-by, there is much need of some large object or building for the eye to rest upon, and which also would be found exceedingly useful to visitors in those sudden showers to which we are so liable. Before four o'clock P.M., at which time I left, this broad walk was but sparingly occupied, though considerable numbers traversed the side-walks, and got on the turf beneath the shade of trees. If generally the brown colour of this huge walk was not relieved by moving masses of ladies and gentlemen, I do not think that adding a third or a half of its width to the lawn would have at all interfered with the beauty of the scene. Sure I am that the Londoner would have found no fault with the comparative narrowness of the gravel. Nothing is a greater luxury to him, and his brethren who live in large towns, than the planting their feet on the green carpet sod. Notwithstanding the ticketed restriction not to walk on the turf, many were enjoying that luxury without any interference. Except in certain necessary exceptions, we hope the restriction will be altogether abrogated. I have had many opportunities of seeing how much more in a dry day the grass is relished than the gravel, and though I have frequently seen a thousand people traversing a small lawn, I used to fancy that their feet were not much worse than a roller. Of course, all runs and making pathways on the grass would have to be avoided, and the gravel would require to be so firm, that, in going from it to the grass, no stones, &c., would adhere to the boots, &c. As already hinted, the Crystal Palace, from the expected throngs, must form a rule for itself, and provide walking room for these throngs when, owing to rain, &c., it would not do to walk upon the grass. My object will be gained if I have made it apparent, that in the number and width of walks it will rarely be necessary or proper for private gentlemen to imitate its example in this respect. I meant to have said all this in a few words, but the pen has run on to a somewhat tedious length. My chief apology must be the importance of walks in the laying out of fresh pleasure-grounds, and the regret I feel is that we have not sooner got to the terrace referred to.

R. FISH.

(To be continued.)

ASPARAGUS FORCING.

Few of our forced vegetables are more acceptable to the cook during the winter months than forced Asparagus. We force a considerable quantity every winter, and I may safely affirm that my worthy employer's table was never four days without this delicacy from the middle of November of last year until the past Midsummer; of course, that produced until the end of April was forced. I have before stated in these pages that I always force young and strong roots about four or five years old; indeed, I cannot force old ones, for we never continue them above five years. I am exceedingly partial to deep trenching, and manage to make my Asparagus the chief preparer in this respect for other crops. I may here just remark on the mode of culture pursued, especially as it is a preliminary to the forcing process.

Celery is my Asparagus preparer; that is to say, deeply-dug and highly-manured soil this year under Celery will, next year, be succeeded by Asparagus. The Celery is grown in beds by what has been called the Scotch system, and each bed ultimately becomes a bed of Asparagus, containing only two rows.

Any ordinary fermenting material suffices for the forcing-bed, which is built much as a Cucumber bed, only not so high. We find a bed of three feet in height amply sufficient in the most severe weather; this, how-

ever, is expected to require linings. The bed is trod tolerably firm whilst making, and about three inches of old vegetable matter is placed over the dung, and on this the roots are placed. Some years since I used to take much pains in securing balls of earth to the roots; but I have long since proved that they are far better without, only taking care that all possible pains be taken over their removal, cutting and bruising as few roots as possible. The fact appears to be, that balls of earth attached to them merely serve to obstruct the free passage of the warmth from the fermenting materials. Divested of all soil when taken up, they prove ready consumers of that nutriment which the old manurial matter we strew amongst the roots in the process of placing them is capable of affording. This fact we have proved with Rhubarb roots, which, indeed, may be forced in a very similar way. We take care to divest our Rhubarb roots of every particle of soil.

The Asparagus is placed so thickly in the frames that one root fairly over-laps the next; but this is no real detriment to their forcing: indeed, the making a bed of fermenting materials and placing glass over it involve a good deal of trouble, or, in other words, expense, and it becomes requisite to produce all we can beneath it. The roots are kept damp from the moment they are taken out of the ground until they are fixed in their position, and this is effected by the use of decayed manurial matters or old vegetable mould, which is washed in amongst the fibres by the action of the water-pot. We may now suppose the bed fairly at work, surrounded by some cosy lining, and the roof covered with mats. Let me now speak of the heat requisite. I consider that 80° is the highest congenial point in Asparagus forcing; but I would rather put it in a fortnight earlier, and permit but 70° to 75°; not that it should merely dawdle into being, for I have generally found that the best which was pushed forward somewhat rapidly. As soon as the Asparagus rises through the soil light must be admitted, and as free a circulation of air as the weather will permit. The bottom-heat, also, must be watched, and if it rises instead of descending, there is no alternative but to water liberally and pull a portion of the lining away.

And here I must pause a moment to offer a few observations on Asparagus in a blanched or green state. We all know that our neighbours on the Continent are loud in their praises as to White Asparagus, and we know equally well that the celebrated Drumstick Asparagus of London is notorious for being hard and tough. Doubtless the good people on the Continent produce tender White Asparagus, but very few of our London people will venture to boast of the tenderness of the White Grass of Covent Garden.

However these things may be, of one thing I feel assured—that little demand exists in our English families for White Asparagus; and that, wherever it does exist, the mere colour is more desired by some persons than the flavour. The Asparagus we force may be eaten to within two inches of the stalk end, and, when used, is of a green cast rather than white, and we have seldom heard a complaint urged against it. In pursuance, then, of what we consider sound doctrine in Asparagus forcing, and in conformity with the genuine British palate, we endeavour to produce green and tender Asparagus; and this leads me to show how it is accomplished.

We give air on all occasions when it is tolerably mild, or can be tempered by any means; and we also permit the "Grass" to enjoy a liberal amount of light. But here I may caution the inexperienced against riding a hobby too hard, an event by no means unfrequent. For my own part, I should be as studious to guard against cold, frosty winds as to endeavour, on the other side, to invite air and light when obtainable in a proper form.

I have ever found that unless a temperature of about 50° to 58° be sustained, whatever the outward condition may be, the "Grass" becomes wiry or tough; in fact, who could for a moment imagine that such a tender vegetable substance so speedily developed could be otherwise if long arrested in its growth?

It may, perhaps, be needless to recommend careful matting or covering up at nights on all occasions; this we do, although we possibly leave air all night at the same time.

I have been in the habit of watering with salt and water when the bed required "cooling down," and the practice is, doubtless, good; indeed, the plant, as to its natural habits, being an inhabitant of salt, marshy land, would at once seem to demand saline applications. But nobody doubts at this day such facts; the only error, if such there has been, consisted in this—that certain enthusiastic cultivators of this valuable esculent fancied that salt alone, without manurial matters, would produce first-rate Asparagus. Let us, therefore, consider salt in the light of a very useful adjunct to, rather than as a substitute for, manure.

In conclusion, I may just remark, that it is well to use water in a tepid state freely during the forcing process, whether in a saline or manurial condition; this, however, in part depends upon the bottom warmth. It must be remembered by beginners, that to water beds of fermenting materials, albeit the water be warm, is to lower their temperature ultimately.

R. ERRINGTON.

SHRUBLAND PARK.

(Continued from page 454.)

THE grand flight of steps by which the upper and lower gardens are now united is the finest arrangement of the kind anywhere, owing to the natural advantages of the situation. As you go down the steps, each "landing" projects right and left beyond the line of the steps, as in the successive flights of the cascades at the Crystal Palace. Both sides of the way are lined with vases and Scarlet Geraniums, and there is a breadth of twelve or fifteen feet on each side planted with dwarf Box, kept like short grass, but not so short. Beyond the Box is all wilderness to the Swiss cottage on the south, and to the Diana the opposite way, more than half a mile in all, and all the way quite as steep as a ladder would be from the Queen's Pavilion, over the garden entrance in the great transept of the Crystal Palace, to the centre of the terrace, and that is almost the length of this grand staircase.

The wilderness is the winter garden, the underwood being of Tree-Box, now about forty years old, from seeds sown at Shrubland. When you enter the "Temple of the Winds," which is the entrance to the top of the steps, and look down the whole length, and across the "lower garden" to an Italian loggia, from which the garden slopes to a great distance, and to the country beyond, the view is not unlike that from the Queen's Pavilion aforesaid. When you reach the bottom you are on a green terrace nearly a mile long; but about one-third of the length is beyond the garden boundary on the north side, where the park takes a very gentle incline, lower than that part of the terrace within the garden, to a considerable distance, and then rises as gradually to the foot of the hill, against which it rises in a bold ascent, and terminates through an architectural finishing in the horizon. If the great tree of California had happened to stand a little beyond, that is, below the horizon, and its huge proportions rose against the blue sky in the centre, the picture would have been complete. This line was determined on when I was here this time three years, and I recollect one of the party wished to

make a railway-like embankment across the dip in the park to the foot of the hill to carry the terrace, which made my hair stand on end; but, as not a foot of ground, or leaf, or twig, must be touched there by any one till the Lady and Baronet "take the whole into consideration," there is no fear of finding fault with principles at Shrubland Park. So jealous are they of the beauties and Italian character of the place, that her Ladyship, some years since, made herself proficient in the art of daguerreotyping landscape views, and so to test difficult problems.

The "after-claps" of this art is very dirty work for fine ladies; but Lady Middleton got a strong, "serviceable" cotton dress, which fastened in front, and went "over all," and she went to work as resolutely as would a housemaid to polish a grate. As long as we have such blood and spirit in high life there is no fear of our degenerating, as a nation, into the common-place views of nine-tenths of the landscape gardeners, who dabble in flower-gardening as well.

It is now over twenty years since ribbon planting was originated by Lady Middleton on a twelve-foot-wide border, which is almost seventy yards long. This style, unless it is rigidly carried out on the system of contrasts, as the scarlet and yellow is at the Crystal Palace, cannot fail, sooner or later, to suggest that other system called shading as with Berlin wool. The first attempts at proper shading were begun here in 1840 in the Fountain Garden, and in a year or two after that three tolerable shades of pink, purple, blue, and yellow were obtained, and are kept up to the present day. Each shade is of different height from the next, which makes the planting more difficult. About that time a thousand seedlings from crossed flowers began to bloom yearly, and it was from so many tints that the first ideas of shading proper, or after the manner of the rainbow, first originated here, and at first we were all daft about it; but we soon discovered the almost insuperable difficulties which must be encountered at every succeeding step. For want of proper subjects to carry out this, the highest style in the art of flower-gardening, and to show you that the idea is founded on natural laws, which force themselves on the minds of great artists involuntarily as it were, I may just state, that about this stage of our proceedings Mr. Fleming, from Trentham, came to see the gardens, and stopped a day or two, and I learned from him that the Duchess of Sutherland was urging on him the very same reasons which Lady Middleton was ringing in my ears for effecting a system of shading flower-beds. From 1849 till last year the great works in hand prevented anything very particular being done here to the shading system; but this season they have beautifully shaded the first two beds you meet on the lower ground. They are flank-beds to the great staircase; one on the right, and the other on the left, a little in advance from where you land from the stairs. The outline of the parts shaded is before you from memory; but it does not give any idea of the whole design, which is in scroll-work all round this centre. The outline is accounted for to correspond with the parts of the scroll next to it. The scroll is planted with bands and lines of Yew and Variegated Box, about ten inches or a foot high. The two are so justly balanced as you come down the steps as to have a grand effect. This is the plan. The White Ivy-leaf Geranium is backed slightly with young plants of *Hendersoni* and *Boule de Neige*, to raise it so as to meet the next, which is a peculiar kind of *Lucia rosea*, but lighter than *Rosea compacta*. This joins to *Cherry Cheek*, an orange pink, which is backed with *Le Titian*, a rosy pink. The two shades here blend so perfectly that you cannot tell where the one ends or the other begins, and the centres are planted with the *Shrubland Queen* Geranium, a dark red or scarlet. Each kind is so planted as to follow the outline of the mass, as a matter of course, and the telling beauty is owing just as

much to this "in-and-out" style of planting as to the colours. The same plants would not tell one quarter so



1. White Ivy-leaf Geranium, 30 inches wide.
2. *Lucia rosea* Geranium, 2 feet wide.
3. *Cherry Cheek* and *Le Titian*, 2½ feet.
4. *Shrubland Queen* in centre.

well in a plain circle. So, you see, great artists fix on a given style of planting first of all, and then make the best plans of beds to suit that particular style. No one has ever shown the true artist in this department in such plain-spoken terms as our correspondent "H. C. K.,—*Rectory*," page 396, who is evidently a natural-born artist himself. The only alteration they would make in his plan at Shrubland Park would be to change 17 for 19, or else 4 for 2; and the reason they would give for doing so would be, that the central group is complete in itself, therefore "cross-corner" planting the two end groups is superfluous; but if the centre relied on the strength of the two ends, the cross planting would tell that each group depended partly on that next to it. There is not a better lesson to study from in *THE COTTAGE GARDENER* than that article.

In advance of the shaded flank-beds towards the loggia, and in sunk panels on either side of a broad green terrace, is the latest plan for a high style of planting beds by Lady Middleton. The depth of the panels is the best in proportion to the size I have yet seen. The two sunk panels at the Crystal Palace, where the chain pattern of scarlet and yellow runs only all round, cannot be compared. Here, as the whole of the bottom of each panel under review is occupied with the pattern, and the outline is intricate, a description of this arrangement of beds would teach nothing without drawings. Suffice it to say, that the key-bed is near one side; that it is half of pure yellow, and half of bronzy-yellow *Calceolarias*. A glaring yellow or a rich brown would not suit the rest of the planting. Five large beds, having between them somewhat of a fan shape, point their narrowest ends towards the key-bed, and outside them, and all round, an intricate system of scroll-beds reach to the bottom of the slopes of the panels, where the grass ends, the pattern being on gravel. Standing opposite the key-bed, there is a system of long, narrow beds on the top of the slope opposite you, and the planting of these has reference to that below. The colours are also to be seen from the upper terraces and from the living rooms, which are from seventy to a hundred feet higher, besides the distance in a straight line. Those who understand the force and value of colour from such heights and distances would say the planting would need to be as at the Crystal Palace to give any effect; but such is not the case. The centre group pointing to the key-bed is made with one large bed of *Punch* in the centre, and a large bed of the *Flower of the Day* on each side of it; and these, again, are flanked with beds of *Lady Middleton* Geraniums, the most gorgeous colours

you can conceive. Running round these, and extending farther to right and left, are the scroll-beds, and they are filled with the best purple, and the best light blue Verbenas, the latter being more for showing the distinctness between the different purples when you are close at them, and for relieving the sameness made by the purples when you are "up above;" but any respectable person may see the whole any Friday in the season by merely asking leave of the Baronet in writing.

The Fountain Garden I have often told about. It is not so good as I have seen it, because, during the great works, thousands of plants which used to figure in "heights and colours" were allowed to perish, and it will be two or three years before they will be able to regain their steps here and on both sides of the conservatory wall. All my beautiful *Tacsonius* and other climbers, my African bulbs, and no matter what, are no more. The destruction and loss were awful to think of.

In advance of the conservatory wall is the "Refuge for the Destitute," as Lady Middleton calls it. A great number of different styles of beds, with costly edgings in iron, wood, and stone, had to be taken up in different parts where the now improvements reached to, but were too good and unique to be lost or thrown aside, and the "Refuge" was designed for their sole use and occupation. Not their sole use, by the-by; because other new beds and figures had to be designed on purpose to work in the "Destitute" into one whole pattern; and here is the best place in all Shrubland to see beds which one might carry in the head to imitate at home, both as patterns of designs and of planting; but I should never get over it if I were to give the plantings in full.

Below this is the new Rosary, with a system of arched iron-work over the walks for pillars and climbers, and climber-covered alcoves at each end. Farther down the slope is a whole system of Italian rustic or cottage gardening, with climbing Gourds as in Italy, and other and more durable climbers to represent the Vines of that country. Ponds and pools, with taller worts and smaller worts growing round the margins, which are alive with tiny worts and slimy worts, which, with their games and running about after each other, make the water blister with bubble worts; tent beds, mounds on which to grow *Houdieuorts*, banks, and blocks, and trailers, festoons, pitching, paving, and goodness knows how much more besides; for I could not get to the end or outside "at any price," back again, and up to the hanging basket, where collections of *Diadems*, and *Quercifolius*, and other such-like Geraniums, are wont to be grown; and from this very spot the *Golden Chain* takes its name, having first been used here in the chain which encloses the pattern outside a tessellated square pavement, on which drips the drainage from the "hanging basket," which is suspended above between four pillars, against which Roses climb. The "basket" is a square box four feet on the side, and is planted with Scarlet Geraniums. The dandified "slip," or outer case, to hide the box, cost only fifteen guineas; but then it has stood seventeen or eighteen years, so you see hanging baskets are not so new as you "might think for," from having first seen them at Sydenham.

Up a few steps, and you are on the "Specimen Terrace," where standard Geraniums of the scarlet kinds are grown, alternating with Cypress-trees (*Cupressus sempervirens*). Rise another flight of steps, and you are on the finest Box terrace in England—unbordered Box-work on gravel, with flower-beds along the centre. Four of them were planted with *Géant des Batailles* Verbena, an excellent dark, dwarf, purplish-red kind, with a strong constitution. From this another flight of steps lands you on the grand central terrace, with a long bank of *Dahlias* on the other side. The hanging basket is

now level with the eye, and is a unique scene amidst so many fine things. Turn to the right along the grand terrace, and you are soon at the Swiss Cottage and Garden, where all the novelties are first "proved." Here the *Alma* Variegated Geranium promises to be the best of that class; *Lantanas*, *Linums*, and all such "tit bits;" *Mrs. Bloomer*, a very dwarf Scarlet Geranium, like *Glowworm*, is very bright. On the opposite side of the terrace is a half-moon-shaped, sunk panel for the different kinds of Verbenas, and beyond is the half-moon hedge of *Gloire de Rosamene*, of which you have often heard. Round one of the horns of the moon, and you are on one of seven walks which meet in one point, being a six or seven-sided large bed, with a vase of Scarlet Geraniums at each of the points, one pointing to the centre of each walk, and each walk having a distinct accompaniment of flowers or handsome shrubs within a tall Laurel fence. One of the walks leads down by two flights of steps to the Labyrinth, with an Edgington tent, a table, and seats in the centre. A gate allows the sedate, the grave, and the aged to pass straight on to the tent, while the gay, the giddy, and the more thoughtless must try their good luck and who will get first married among the mazes which lead to the turning point in the fortunes of the chase. Another of the seven walks leads to the hanging basket. This is guarded on either side the whole way by the "household troops"—rows of Irish Yews at "quarter distances." Another of them has broad bands of *Berberis aquifolia*, kept down to a plane surface by pruning; another with Swedish Junipers; another with *Marvels of Peru*; and the rest with other marvels, which I forget just now. The central mass to which these tend is of common Yew, ten feet high, and perhaps fifteen feet in diameter. A belt of *Laurestinus* surrounds the Yew, and another belt of the *Variegated Mint* finishes the group.

Blow it high or low, or from any one point of the compass, but let the sun shine, and one has here a sheltered walk out of the seven to bask in on a wintry day.

Up on the hill, above the Swiss cottage, is the Chinese summer-house and garden. When Colonel Malcolm returned from the Chinese war under Sir Henry Pottinger, he said this and its accessories were much like what one meets with in China, only that all the windows in China are oval, this being square after our fashion. Mr. Rucker was more struck with two rows of standard *Fuchsia corymbiflora*, six feet high in the stem, one down each side of the borders of the Chinese garden, than with all the rest in Shrubland. The *Fuchsia gracilis* does better in Shrubland as hedges next the shrubberies than I ever saw it elsewhere, and I should think they have miles of it. They have quantities of promenade beds of Savin, where flowers would not come in the picture; and if they were to alternate the Savin with *Juniperus prostrata*, which is of a lighter tinge, that feature would be heightened considerably. The first *Paulownia imperialis* which was imported into England stands here without having yet offered to bloom. The Pinetum is in "the woods," where I did not go, but they have sufficient room within the garden now to plant specimens of the whole tribe. They could not, or would not, tell me how many men were employed in these gardens; but sixteen of them were then absent at their harvest. Perhaps twice sixteen could be mustered in the grounds. The management of the conservatory is quite unique, and I shall give an account of it some of these days. 100,000 is the number of plants now used for the flower-garden and decorations.

D. BEATON.

NEGLECTED ESPALIER FRUIT-TREES.

THERE is no way in which information is more usefully acquired than by making inquiries and obtaining a public answer to them, as it often happens that the

wants of one individual are the same as the wants of several others. An example is before us in one or two queries made by a lady, whose case is this:—

Our correspondent says she has a number of young fruit-trees about twelve months old, consisting of Apples, Pears, Plums, and Cherries, which she wishes to train in the espalier form, and has planted them about four feet from the walks. The trees, we understand, were what are called maiden trees from a nursery, and not pruned in any way at the time of planting, nor have they been pruned since, so that it is reasonable to suppose they now represent dwarf bushes of more or less irregularity of growth; and the shoots, we suppose, seem disposed to grow any way but the one in which they ought to grow to become well-proportioned trained trees. Our correspondent now asks what is best to be done with them, she having hitherto treated the trees as recommended by the nurseryman who furnished them.

Before detailing what ought *now* to be done, I must take the liberty of condemning what has been done, or rather, omitted, in relation to the Cherry and Plum-trees, the first-named especially; for though it may be proper to plant Apple and Pear-trees, and to allow them to remain twelve months unpruned, the stone fruit ought to be treated differently. Cherries especially, disliking much knife work, ought to have been looked to early in the summer, and those shoots only retained which were likely to train in when they were wanted; and sufficient of these being secured, the remainder might have been nipped off when they were only an inch or two long, and the long shoots which sent them forth might have been stripped entirely of them by degrees, so that in autumn the long shoots might be cut out, when their loss to the parent would hardly be felt, while the young shoots emanating from their base might be trained into their proper place during the summer, and in winter very little will be wanted by them. All stone fruits ought to have their principal dressings in summer, Cherries especially, being impatient of amputation in winter; and though Plums do not suffer so much, yet they do not answer so well to have those wholesale knife prunings which Apple and Pear-trees are often subjected to; besides which, by only allowing the required number of shoots to form on each tree, they can be made to grow at the place where most wanted, and trained in accordingly; but, as this cannot be done now, I will proceed to give advice as to what is most useful under present circumstances.

In the first place, we presume there is no fixed espalier or frame-work to train the trees to; neither is it necessary that the permanent wood or iron-work need be put up yet, for some temporary means may be adopted to get the trees into shape for a year or two, and then the permanent trellis-work might be added with a fair chance of its being soon covered. This point, however, we leave to be settled on the spot. At the same time, we beg to remind those whose duty it is to fix those things, that the permanent posts or fastenings ought to be good, as the upper structure seldom gives way; and whether the training portion be iron or wire rods, or some wooden palisading or other contrivance, still the portions which secure it to the ground must be good, and well adapted to last a number of years without giving way. There are various modes of erecting such things; but, however neat they may be, they all look the better by being covered with trees, and as there is always a loss of time at the beginning, it would be as well to delay putting up the trellis-work until the trees have had a start.

As it is seldom advisable to have espalier-work higher than six feet, and often much lower, the trees ought to be planted widely apart, and trained horizontally. To begin such training, a few stout stakes thrust into the

ground in lieu of the intended espalier will do for the first season, or, it might be, for two years, a neat straight stake being tied horizontally to their tops. Against these stakes the shoots ought to be tied as soon as they are long enough; that is to say, they ought to be tied in during the summer, and all useless shoots removed then, so that but little is wanted in the winter pruning.

As our correspondent says her trees are now six feet high, it is likely that some of them must be cut down in a great measure. This may with advantage be done with the Pears and Apples, although, generally, I do not advocate it if the tree shows signs of forming a suitable head. Not that there is any fear of hurting or disfiguring it, but there is the danger of limiting the head of the plant to that degree as not to absorb all the juices the roots furnish, and, consequently, shoots are emitted below the graft, or even suckers are issued from the root, which continue to grow long after the head has assumed its proper size. This last evil ought to be avoided if possible, and prevention in this case, as in many others, is better than cure; and we all know the perverse tendency Rose suckers have to come up, to the great disparagement of the head, as well as annoyance of other things around them; so fruit-trees, where they once begin to direct their energies to the production of useless suckers, soon become unfruitful. It is, therefore, on that account that I would not advise any grafted or budded tree to be too closely pruned in at any time, but they may be shortened back with every advantage; and, in the present instance, the Apple and Pear-trees of our correspondent may be more closely cut in than trees which have stood a longer time at one place, as the roots can scarcely be supposed to be charged with such a superabundance of feeding matter as will not be absorbed by the part remaining. Nevertheless, for the reasons stated above, it is better not to cut in too closely.

JOHN ROBSON.

OUR HOUSE PLANTS IN AUGUST AND SEPTEMBER.

(Continued from page 455.)

GESNERA ZEBRINA, now coming into bloom, should have weak manure-waterings frequently, alternating with clear water. The plants must either stand at a good distance from the glass, so that the sun's rays are diffused before reaching them, or they must be slightly shaded, and air given before the sun strikes them, or the beauty of the foliage will be easily injured. Towards the end of October and onwards no shading will be necessary, as the sun's rays will then fall obliquely, and not injure them. Other tuberous-rooted Gesneras that have done blooming treat as recommended for *Achimenes*; *Gloxinias*, requiring, in most cases, the treatment of the latter. These three genera alone would make a small house very gay in summer, and most of the winter denizens of the house could go to an airy greenhouse.

POINSETTIAS, EUPHOREIAS, ERANTHEMUMS, JUSTICIAS, and other winter-blooming plants, will now require good open positions, plenty of sun-light, and a fair amount of water, and will do very well in pits, where a small heat can be given in emergencies until the month of October, when they should be housed.

SUCCULENT PLANTS, such as *Cactus* or *Cereus speciosissima*, *speciosa*, *Ackermanii*, *Jenkinsonii*, *flagelliformis*, *Russelliana*, &c., if they cannot be kept where the sun can beat on them under glass, will, as a second best position, do well close to a south wall, and with a coping or other contrivance near them overhead, to throw rains off both the branches and the roots, especially the latter. Unless in very hot weather indeed, the plants will now require little or no watering at the roots until next spring, when they begin to grow again, when the

flower-buds will also appear. If kept growing on with moisture at the roots, and in a comparative shade, you may have fine, green-looking plants all the winter, but in spring and summer you may wish and wish again for a dense mass of bloom; but will it come? To secure that, a dry roasting process must be continued now; and in winter, if the plants are not placed over a heating apparatus, they will scarcely ever require the sight of water, the stems being able to absorb as much moisture from the atmosphere as the plants require. If these stems should seem to get rather shrivelled, syringe or sponge them in preference to wetting the soil about the roots. When placed in heat, or as the sun gains strength in spring to cause the plants to grow afresh, then waterings will be necessary.

WINTER-FLOWERING PLANTS, such as Camellias, Daphnes, Cytisus, will be better out of doors until the end of September, provided they are not blown about, and can be protected from heavy rains. Where there is plenty of room, and fine foliage on the *Camellias* is much desired, they will do well if kept in an airy greenhouse after the buds are set. The same may be said of *Azaleas*; but if the buds are set early, and these latter are then placed in a sheltered situation out of doors until some favourable time in October, though the foliage will not look so fresh as that on plants kept in-doors, the bloom will be equally good, and the old foliage will drop sooner. *Azaleas*, by their withering and dropping leaves in winter and early spring, give as much trouble as Sweet Bays and evergreen Oaks in summer, the continual sweeping now being the tax they extort for their bright green in the winter months.

CORREAS, at least all the tenderest of them, such as *speciosa*, should be kept in cold pits, with plenty of air, and the lights ready to be placed over them in storms of wind and rain. The same may be said of early-flowering *Heaths*; but even more attention will be requisite to keep the roots cool, while the heads are exposed to sunshine and plenty of air. *Epacris*, the winter-blooming Australian Heath, and subject neither to mildew nor hardly any other disease, and some thirty or forty species and varieties of what have been advertised in these columns for as many shillings, and which, unlike *Heaths*, will take pot luck with a general mixed collection of greenhouse plants, should now have all the air and light possible, and will rejoice in a cold pit if it can be afforded them, with plenty of air night and day, the glasses put on in severe rains, and full exposure with the glasses off during September, inuring them to this full exposure by degrees. Such treatment will give you long shoots covered with bloom in winter and spring; and the best way to secure it again is to cut down these shoots within a bud or two of their base when they have done flowering, much as you would do an old Willow stool. Encourage the buds to break by a warm, moist atmosphere, and then harden and mature the shoots thus obtained in the autumn.

CINERARIAS will require repotting, dividing, and taking up those planted out after flowering; and *Calceolaria* seed should be sown. *Primroses* will require to be grown on for winter blooming, and *Chrysanthemums* should be duly staked, and receive plenty of manure-water after the first buds appear. They cannot have too much sun.

HARD-WOODED GREENHOUSE PLANTS, in general, should now be induced to commence a maturing, rather than a growing process, as much of their health and robustness in the dull days of winter depend on that robustness now, produced by more air and sunlight, and less water.

MANY ANNUALS for spring and early summer blooming may now be sown on to the middle of September—such as Mignonette, Intermediate and Ten-week Stocks, *Schizanthus*, *Collinsias*, *Nemophilas*, *Virginian Stocks*, &c.

PROPAGATING BY CUTTINGS should now be in active operation in the case of all soft-wooded plants intended for bedding, as *Geraniums*, *Petunias*, *Verbenas*, &c. *Calceolarias* will be better propagated at the end of September. The hardier *Geraniums* will strike very well out of doors during this month and half of the next; but where glass can be obtained, they would do as well under it, with a little air given, and may either be pricked out in light, sandy soil, or put in pots and boxes at once. *Petunias* and *Verbenas* will require to be kept closer under glass until they begin to root. The smallest side-shoots, if above one inch and a half long, will answer best. *Verbenas* will do well pricked out in a bed under glass, and shaded. Those who have no bed will obtain young plants expeditiously by placing the points of a shoot over the mouth of a small pot filled with soil, keeping it there slightly imbedded at a joint with a pebble laid over it, and the stem cut when the pot is pretty well filled with roots. This is a capital plan for amateurs with little glass now to spare. One such little plant is worth a dozen of the old roots, which some will still persist in taking up, and trying to save over the winter, at the expense of much future grumbling and almost certain disappointment. Whoever has a nice plant of a favourite *Verbena*, and has neither hand-light nor frame at liberty to strike cuttings in, may thus quickly and easily secure a number of nice-rooted young plants, with plenty of vitality in them to pass through the winter, with little trouble. All these things, until at least the end of September, are better struck in cold frames or under hand-lights. Even *Heliotropes* so struck are hardier in winter than those eodded with bottom-heat, &c. *Calceolarias* struck in autumn should be as cool as possible, provided they are not frosted. With the exception of greenhouse *Geraniums* or *Pelargonium* cuttings, made generally in July and August, all other greenhouse plants, as a general rule, though admitting of exceptions, should be propagated in spring and early summer, as then the young plants can be established before winter. R. FISH.

GARDEN LABELS.

As suitable labels for plants and trees, which can be procured at a moderate cost, and shall be of a permanent character, and also shall retain either some reference number or writing of an indelible character, appear to be a desideratum with your readers, I venture to send you two samples which I have had in use some years; the one, a T shape, is five inches long, three and a half inches wide by one and a half, for the reference number and name. I got them ready cut, and numbers progressively stamped at a zinc manufacturer's shop for three shillings per hundred. They have, as you will see, a progressive number on the top of the label. I obtained the receipt for the indelible ink from your pages, and find the only secret in using it to be, that the face or surface of the zinc label must just previously have been rubbed bright with some fine emery paper. When I write the name of the plant on the label, I also enter the name opposite the progressive number in a reference-book, so that if the name becomes obliterated the stamped number serves for recognition. I have had them in use some years, and have the pleasure of having a large collection of old-fashioned, herbaceous plants kept all correctly named. The smaller label with a hole in it, but without the tongue, is adapted for attaching to plants, shrubs, or fruit-trees by wire (it should be zinc wire; for if of other metal the galvanic action corrodes it). I do not think the first cost of these labels too dear when the permanent character is taken into consideration, and should think any tinner or worker in zinc would supply them at the price named.—W. X. W.

[These are the labels ordinarily made of zinc, and written with the ink, a receipt for which has so frequently appeared in our columns. They are, after all, the best labels for the purpose we have yet seen.]

ONCIDIUM PINELLIANUM.

(PINELLI'S ONCID.)

THIS is a very beautiful Brazilian species, of which no account appears to have yet been given publicly. The name, which is of foreign origin, occurs in Messrs. Loddiges' catalogue, where it is said to have been introduced in 1841, but I do not find it elsewhere. The flowers are a very bright yellow, with dark-brown blotches and spots on the sepals, petals, and base of the lip: in the amount of blotching there is, however, some variation in different individuals. They appear closely packed in a second manner upon the short branches of a small panicle, as is shown in the cut, where 1 represents the column and wings magnified, and 2, a magnified flower from which the column and upper half of the lip have been removed. The species is very near *O. spilopterum* (also called *O. gallopavinum*), from which it differs in having a branched panicle, sepals, and petals larger in proportion to the lip, and a crest more broken up at the base into short parallel plates. I am not sufficiently acquainted with the plant to speak of it further.—J. L. — (*Horticultural Society's Journal*.)

ON A FORM OF SCAB IN POTATOES.

By the Rev. M. J. BERKELEY, M.A., F.L.S.

THERE are two very different diseases known commonly under the name of scab, of which one is far more general than the other, but, at the same time, less injurious to the intrinsic value of the tubers, though, in point of fact, reducing their market value in consequence of the rough pocky aspect which it produces.

The first, of which it is now my intention to treat, was described and figured by Martius (*Die Kartoffel-Epidemie*, p. 23, tab. 2, figs. 9-13; tab. 3, figs. 36-38), and is characterised by the presence of an olive-green or brownish pulverulent *Hypomyces* (*Tubercinia Scabies*, Berk., *Journ. Hort. Soc. Lond.*, vol. i. p. 33, tab. 4, figs. 30, 31), which gives a very peculiar appearance to the pustules, and to which, indeed, it is not confined, but occasionally forms a stratum a line or more in thickness beneath the greater portion of the cuticle. A few scattered tubers occur now and then affected by this disease, but it is very rarely so prevalent as to draw much attention. The Potato crops, however, suffered greatly from its ravages in the Scilly Islands and in Cornwall during the present summer, where it appeared under a very destructive form. Mature specimens were forwarded to me, with the promise at some future period of a supply of tubers in every stage of the disease. I was, however, disappointed in my hope of being enabled to investigate its nature more closely, possibly because the malady, as Martius reports, is several weeks in going through its phases. Indeed, it should seem that, in Germany, it does not usually occur till after the tubers have been raised for pitting; and as it first appears under the form of discoloured spots, which gradually spread and become confluent, and of which the cuticle is not at all ruptured for some weeks, it has been supposed by the German peasants to arise from injuries received by the tubers in the course of harvesting. This notion seems, however, to be completely contradicted by the fact of its occurring to a considerable extent on the tubers *in situ*.

The second disease, which passes, though perfectly distinct, under the name of scab, is extremely common in



Oncidium Pinellianum.

newly turned-up soil, especially if it contains cinder-dust or lime-rubbish, or where these form a considerable part of the manure in old tilths, for it is by no means confined to new ground, but is to be found in a greater or less proportion in most crops, in some instances every individual tuber being attacked, in others the scabby tubers making the exception to the smooth and healthy appearance of the sample.

It commences at a very early stage in the growth of the tubers, whether in those produced immediately from the sets or those which often make their appearance with the first heavy rain after a long-continued drought. I have seen during the present autumn Potatoes already attacked which did not exceed a quarter of an inch in diameter, and it is on these young tubers only that the early stage of the disease can be studied. Its first appearance is that of a minute brown speck, paler on the edge, and staining the subjacent cells of the cuticle, which, as is well known, consists of a variable number of layers of muriform tissue, and which should seem rather to be considered as the outer portion of the bark of the underground stem than as of the nature of epidermis. It is, therefore, only in a popular sense that it is here termed cuticle. The discolouration does not proceed beyond the cuticular cells, nor is the cuticle at all thickened, but is occasionally more or less

corroded in the centre. Even in this early stage of growth, when the surface of the cuticle is still but little injured, and the disease confined to a discolouration of a few of the cells of which it is composed, on the removal of the outer coat little pale specks are visible on the smooth subjacent surface, indicating precisely the situation of the incipient pustules. In the course of a few days the spots spread, become paler, and are abraded in the centre; and if the cuticle is now torn off, it will be found that where the spots are situated it is protruded into the substance of the tuber, the subjacent cells being at the same time absorbed, so that the exposed surface of the tuber is covered with little pits of a paler colour than the rest, and more transparent, and, in red varieties, distinguished by the absence of colouring matter. If a section be made through the pits, the cells will be found to contain but little fecula, and their walls to change shortly to a reddish-brown. The cells of the base of the pustule still form a portion of the cuticle, which has, however, been more or less incrassated as the outer layers of its tissue were corroded.

Fig. 1.

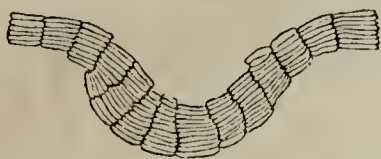


Fig. 1. Vertical section of a young pustule, showing that the structure of the pustule is the same as that of the skin of the tuber.

Fig. 2.

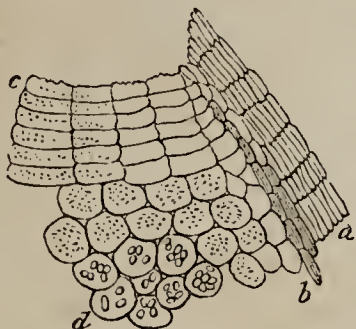


Fig. 2. Vertical section of an old pustule. a. Skin of tuber; b. Cells immediately beneath the skin, containing colouring matter; c. Cells at the base of the pustule; d. Starch cells.

Fig. 3.

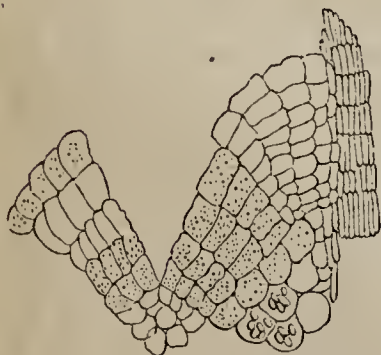


Fig. 3. Vertical section of a cracked tuber through the centre of a fissure.

Fig. 4.



Fig. 4. Portion from the tissue at base of a crack more highly magnified.

The pustules now become confluent and deeply excavated, their inner surface being more or less scaly and corroded. As long as the cuticle is easily separable they separate with it, whether fresh or boiled, so that the tubers, when served at table, appear shining and smooth if the cuticle is nicely peeled, the diseased spots being indicated by scars resembling those left by the small-pox. The quality of the Potato itself is little altered, except that it acquires sometimes a slightly earthy flavour, if, indeed, that is really attributable to the disease; and, according to the virulence of the disease, there is a slight difference in the quantity of

fecula contained in the tubers. In this stage of growth it is not uncommon to find some species of Poduridae revelling in the scurfy cavity of the pustules, and threads of a yellow-brown mycelium, which is probably that of *Botrytis vulgaris* or some nearly-allied species, traversing it, but not penetrating far beneath the surface. These, however, are merely accidental and secondary phenomena in the malady.

By the time that the cuticle of the tubers has become well fixed, the spots, which are still more rough and excavated, often present a very unsightly appearance, but in every case, however complicated, a tissue very much resembling that of the cuticle is presented under the microscope; for, though the pustule has been excavated perhaps a line below the surface, and the original cuticle is seen surrounding the pustule, while the continuity between it and the cavity of the pustule which existed for some time after the appearance of the disease is quite dissolved, the whole of the diseased surface exhibits a muriform arrangement of the cells, those of all the strata of which it is composed being for the most part coterminous; the individual cells are, however, far larger and coarser. The manner in which these cells originate is very obscure, whether from a modification of the more superficial cells beneath the cuticle or from a hypertrophy of those of the cuticle itself. I am inclined, however, to the latter view, though it is not without difficulty, and the analogous case of cracked Potatoes, which I was enabled to study, more partially indeed, at the same time, has made the matter at least doubtful.

After the summer drought and the subsequent rains, a crop of very smooth-skinned Potatoes was much cracked from the inability of the tubers to accommodate the sudden increase of moisture. I was surprised to find, on examination, that these exhibited phases very similar to those of the scabby crop; the tissue beneath the cracks was transparent at first when cut, and nearly void of fecula, and became more rapidly rusty than the other parts of the tubers, and, what is of more importance, the disc of the fissures exhibited under the microscope the same muriform tissue, though here also the connection between that and the cuticle was dissolved. I had no opportunity of ascertaining the condition of the tissue when the fissures first took place, which would probably have shown at once of which of the two sets of cells, the cuticular or sub-cuticular, it was a modification. In this instance I observed something which may perhaps indicate the mode in which the uniform tissue is formed. It will be seen in Fig. 4 that between two contiguous radiating series of cells a little wedge of cells has been interposed, of which the broad end consists of double, the narrower of single cells. This process repeated would clearly produce a tissue like that in question.

In the case of cracking, the evil is evidently mechanical; and as the phases, as far as they have been observed, are so extremely like those of the disease we have been considering, I am inclined to think that that is in great measure mechanical also. The first decay of the tissue, which is confined to a mere speck, is probably caused by contact with some irritating particle in the soil, and when this is established, the corrosion of minute insects and the exposure of the tissue to external agents, accompanied by a constant effort to repair the damage, may be sufficient to account for it, for the disease is absolutely confined to the surface, and never penetrates to such a depth as to cause any general disarrangement of the tissues.

If such be a correct view of the case, which is submitted to further investigation, the remedy will consist in avoiding all such substances in the cultivation of Potatoes as are observed to be accompanied by scab. This will be best ascertained by the practical agriculturist, and would probably not be very difficult if care be taken not to confound the two very distinct diseases which pass under the common name of scab.—(*Horticultural Society's Journal*.)

NOTES FROM PARIS.

A GRAND Flower Show of three days' duration was lately held in the spacious Orangery of Versailles, and I think, though I have been unable to send my notes sooner, that you will probably be the first to publish any notice of it. I only saw it on the third day (the 9th of September); but

the *fête* with which it was associated opened on the 7th, and that was Sunday. It is the rule here to have the *fêtes* on a Sunday. Every town and village has its *fête*, which is sometimes kept up for two or three consecutive Sundays. It is the French system, though it is not, and, I trust, it never will be ours.

The railway which runs between Paris and Versailles passes through some beautiful and fertile grounds. Fields of luxuriant Vines frequently meet the eye, and to all who come from a more northern latitude the aspect of a Vineyard must stir up many pleasing recollections of ancient history and eastern lands. Along the banks of the railway are also many charming little villas, with their neatly-kept gardens, arbours, or kiosques; for the French people, or, at least, those of them who like to have things nice, are wonderfully fond of constructing some little eminence by which they may see over the heads of their neighbours. But the grandest sight of all is the capital itself, which, as you hurry along, suddenly opens now and then before you, and as suddenly disappears from your admiring gaze. The great dome of the Pantheon, the spacious Arc de Triomphe, the majestic Colonne Vendôme—these, and twenty other tributes to genius and patriotism, rise far above the other buildings of the capital, and never fail to attract a look of recognition from all.

In respect to cultivation and picturesque charms this part of the environs of Paris is more beautiful than any other. At a short distance from Versailles you pass through St. Cloud, and some portions of the wood, with its long, broad avenues, may be seen from the train.

The town of Versailles, the scene of revelry and gaiety in the days of Louis Quatorze and other monarchs, is now quiet and lonely enough, especially during the week, and the château is rarely visited except by foreigners, of whom, perhaps, the greater number are from England. Certainly, on the day of my visit, the English formed by far the majority of those whom I saw, and I had the pleasure of hearing again the rich accent of my mother tongue in all its purity.

As you stroll down the broad walks and avenues at some little distance from the château you see no one; the fountains are silent; there is not a breath of wind to make even the Aspen quiver; the *gardiens* are gone, or, perhaps, dosing in some shady corner. None of the old women who sell ginger-bread, lemon-water, and lollypops are to be found beyond a stone-cast from the windows. There is, in short, a disagreeable sensation of solitude about the grounds on a week day, which must contrast strangely with the laughter and liveliness of a *fête* day throng.

The road leading to the Orangery was duly indicated by means of several flags and *oriflammes*, and the entrance to the Show was effectively set off with similar attractions. To give an idea of the Orangery as to size, I may just observe that in winter it contains some seven or eight hundred large Orange-trees in boxes. It is, indeed, an immense structure, with lofty windows at the sides. The ground, in this part, is considerably below that on which the château stands. The Orange-house is, therefore, immediately under the extremity of a spacious terrace, which was laid out by Lenôtre just before the windows of the left wing of the château. This is the artistic garden which I noticed in one of my articles last year. It is composed of so many arabesque-like figures in box-wood, the intervening spaces being only light sand. There are no flowers of any kind.

Now, with respect to the Exhibition, it was all that could be wished for in September. There were many fine collections of *China Asters*, *Gladioli*, tree *Fuchsias*, *Dahlias*, and similar autumn flowers, and everything in the best order. The greater number of the plants and other objects exhibited were from the nurserymen in the vicinity of the town. M. Truffaut, in particular, showed all his strength with *China Asters*, *Gladioli*, and other sorts. Some fine young *Coniferae*, and a great number of *Pine Apples*, *Peaches*, and *Grapes* were sent from the imperial gardens. The best single specimen was a *Heliotrope*, about four feet through, and in excellent condition. Not far from this, but by no means so well placed, was a singular *Petunia*, having its corollas, about half-way towards the circumference, exactly the colour of the leaves; the other portion was of a rosy-purple colour. The flowers were large and abundant. An immense number of exotic *Ferns* were shown by M. Dantier Duval; and a miscellaneous collection, in which the tree

Fuchsias were remarkable, came from M. Burel. The *China Asters*, by Renaud, were also in great profusion and beauty.

But perhaps the most admired of all were M. Louviot's *bouquets*. One of these was at least two feet in diameter, and composed as follows:—

Centre, white, a cluster of *China Asters*.

1st circle, blue, Violets, or some flowers of *Iris*.

2nd do. red, *Pelargoniums*.

3rd do. white, *China Asters*.

4th do. rose, *Gladioli*.

5th do. green, Common Heath.

6th do. blue and purple, *China Asters*.

7th do. white, *China Asters*.

8th do. *Dahlias* of sorts.

Another, on a smaller scale, was also very pretty. It was thus made up:—

Centre, spike of White Heath, surrounded with a ring of Common Heath.

1st circle, bright red, *Gladioli*.

2nd do. white, *China Asters*.

3rd do. blue, some species of *Iris*.

4th do. crimson, *Verbenas*.

5th do. white, *Asters*.

6th do. mixture of blush *Roses* and *China Asters* of sorts.

There were only one or two small collections of *cut Roses*, which were on the wane, but still they were fine.—
P. F. KEIR.

GENERAL NOTES FOR OCTOBER.

KITCHEN-GARDEN.—This should be one of the most busy months of the whole year, and those who look forward with hopes of having good crops next year must now begin to make the requisite preparations by *draining*, *trenching*, and *manuring*. The depth and distances at which the drains ought to be cut, when either pipe or stone drains are made, are points on which no particular rule can be given, as the nature of the soil and other local influences must dispose the operator to select the most suitable system for the place. The ground intended for *Carrots* and *Parsnips* next season should be trenched two spades deep, and thrown up into ridges two feet wide, applying manure at the same time, which is put into the bottom of the trench as the operator proceeds. Thrown up into ridges there is more surface exposed to the pulverizing influence of the frosts and thaws in winter, and in spring it is levelled down in a friable and good state for sowing seeds. The main crop of *Early York Cabbages* must be planted out for cutting in May and June next year, and after cutting to produce an abundant crop of *Coleworts*. *Cauliflower* plants to be transplanted into frames, or under hand-glasses, or potted, which is best, and, kept in a cold frame, they receive no check when planted out in spring, and produce fine and early heads. All root crops, such as *Carrots*, *Beets*, *Salsafy*, and *Scorzenera*, must be stored away in some sheltered corner packed in sand. The *Parsnips* do best when left in the ground and protected with a little litter in frosty weather. *Brocoli* to be taken up and laid down closely together, the roots covered with soil, and the heads to the north; as the operation checks their luxuriant growth they are then less liable to injury from frosts. *Asparagus* beds to be cleaned, the stems cut off, a portion of earth that covers the crowns of the plants to be removed to the alleys, a good dressing of manure given, and the earth returned over the manure. Those beds that have had repeated applications of liquid manure during the growing season will require nothing more than a good cleansing, forking the beds carefully over, and leaving the surface rough.

FLOWER-GARDEN.—The weather of late has been most favourable to the flower-garden; indeed, the masses of colours, where attention had been given in picking off the faded flowers and dead leaves, are now, and have been for a considerable time, most brilliant: if it were not for the falling of a few leaves, and other indications of the approaching winter, we might beguile ourselves into the notion that summer still lingered with us in all its glory. But for the transient nature and sudden changes of our climate, in a few short days a black frost, like a cloud, may descend, and lay prostrate the beauties of our gardens. Therefore, all plants that it is desirable to preserve during the winter should be taken

out of the ground immediately, the roots and tops thinned a little, merely to give them a compact and regular shape, potted in good soil, and placed in a close pit or frame where there is a gentle bottom-heat, to excite the roots and to establish the plants in their pots, the better to withstand the vicissitudes of a long and dreary winter. Such plants are preferable for vases or single specimens, as they cover more space, flower earlier, and more abundantly than young ones.

When the frost has destroyed the beauty of the flower-garden, the beds and borders should be cleared and planted with *Tulips*, *Hyacinths*, *Anemones*, *Ranunculuses*, *Crocuses*, *Crown Imperials*, hardy *Lilies*, *Irises*, *Narcissuses*, &c., and spring-flowering plants, such as *Wallflowers*, *Primroses*, *Polyanthuses*, *Iberis*, *Alyssum*, *Arabis*, *Aubrietia purpurea*, &c., planted in masses in the beds and borders, thus giving a cheerful appearance during the winter months, and producing a gay effect in the spring. *Tulips*, and, indeed, all hardy bulbs, to be grown in the same place for a succession of years with a fair chance of success, it is necessary to take away a few barrowful of the old soil, to be filled up with fresh compost of turfy loam that had been frequently turned over for the last twelve months. About the middle of the month is a good time for planting the Tulip offsets, the beds to be raised about six inches above the alleys, and rounded a little in the centre, to be planted in rows six inches apart and two inches in depth, and to have sprinkled finely-sifted compost under and over the bulbs. Supposing that all the tender stock of plants are carefully housed, and the anxiety with regard to their safety in a great measure diminished, more careful attention can be given in arranging and removing into a cold pit *Brompton*, *Intermediate*, or *Ten-week Stocks*, *Myrtles*, *Cytisuses*, *Pentstemons*, &c., the pots to be plunged in sand or coal-ashes, which are not only a protection to the roots during the frosts of winter, but also save much labour in watering during the spring months. Be careful at this season, when watering plants, to give it to those only that require it, to remove all mouldy or decaying leaves, and to keep the interior as dry as possible during dull, foggy weather. If mildew appears, flowers of sulphur to be applied immediately, which will be a certain preventive to the plague spreading further; and if the green fly appears, a fumigation of tobacco will finish them for the season.

All such plants as *Auriculas*, *Carnations*, *Heartscase*, &c., that are growing in pots, should be removed to their winter quarters; very little water, only what is barely sufficient to keep their tissues from drying up and shrivelling, should be given, and the drier they can be kept without this taking place the safer they will be from injury by frost, and the more healthy and vigorous to produce a good bloom in the proper season.

GREENHOUSE.—All greenhouse plants should now be housed, and enjoy a free circulation of air night and day for some time, or as long as the weather will permit. It is generally admitted, and for very good reasons, that about the latter part of this month is the best season for planting fruit-trees, and, in fact, all trees, both deciduous and evergreen. The heat or natural warmth produced by the summer and autumn sun, and still partly retained in the soil, will be sufficient to stimulate the roots and fibres to produce some more roots and fibres before the commencement of severe weather, by which means they will be better able to establish themselves in their new places, and to withstand the severity of winter, and will have a portion of organizable matter stored up in the system ready to start into growth when the warmth of the spring accelerates the motion of the sap, and which will greatly assist them in making new wood the following summer; therefore, planting fruit-trees, &c., ought to be done, if possible, at this season of the year. If for some reason or other it cannot be done now, or during the following month, it will be best to postpone it to the spring, for, if planted during midwinter, when the ground is cold and generally wet, the whole system of the tree, checked by removal, remains stagnant, the roots and fibres decay, and, consequently, the injurious effects will be perceptible in their wretched growth in spring. Planting should be performed in dry weather, and the holes be made to suit the full extension of the roots when properly spread out, with additional space for them to extend young and tender roots and fibres into the soil lately stirred up. It is also necessary to

be careful that the trees are not planted too deep in the soil. About six inches should be the average depth of the roots, nearer the surface in heavy or clayey soils, and deeper in sandy or gravelly ones. The influences of sun, air, rain, and such beneficial agents, are as effective of good to the roots as to the branches. The fruit-border is the favourite place with some persons, on which they cultivate many of their early spring vegetables. Although it would be best to keep the fruit-borders solely for the benefit of the fruit-trees, nevertheless it is generally considered too valuable for other purposes, and, therefore, it should be only used for light, but not deep-rooting or exhausting crops of vegetables. When the roots are properly spread, about six inches thick of the soil that had been some time before thrown out of the hole and broken fine, should be carefully spread over the roots and gently pressed down by the fork, beginning at the extremities of the roots, that they may, by that means, be kept in their proper positions; a good watering to be given to settle the soil around the roots. Cutting off the branches of trees at the time of removal is a bad practice, as it lessens the amount of the living principle, or the organizable matter that is stored up in every branch. Now is also the best time to carry into operation any new ground-work, or alterations in the flower-garden or pleasure-ground, for the reason given above. Turfy loam, leaf-mould, dung of various sorts, so generally used for composts, should now be collected and stacked up in separate heaps under cover. To compensate, in some measure, for the want of flowers, it is necessary to be doubly diligent to clear away all dead flowers and leaves, and, by hoeing and raking the borders, to give a clean, cheerful, and lively appearance to the whole.—
WILLIAM KEANE.

NAMING FLORISTS' FLOWERS CORRECTLY.

"QUANDO bonus dormitat Homerus." Even Mr. Beaton himself may be caught napping; as, for instance, in the August number of *THE COTTAGE GARDENER*. In page 346, speaking of the *Verbena Brillant de Vaise*, he says, "All our florists are wrong in writing *Vaise* for *Vase*; there is not such a word as *Vaise* in the French language. It may be a slang word among fellows who bud Roses and lay Pinks without shoe or stocking, but 'dress' at night for the theatre; but I must have a whole chapter some day on the corrections of the spelling of bedding-plants. A new world has opened before me in this Experimental Garden—more catalogues, more names, more confusion, and more dog-Latin than the old world has any conception of."

May I ask Mr. Beaton if *Vaise* or *Vaize* is not a suburb of Lyons, and whether the *Verbena* in question did not take its name from this place?

Again, *à propos* of dog Latin, in page 271 of the last July number of *THE COTTAGE GARDENER*, he says, "It is quite wrong to call it *Diadematum regina*; I named it myself *Diadematum regium*: the meaning is *Royal Diadem*." Now, *Diadematum regina* has the advantage of being sense; it means *Queen of Diadems*; whereas *Diadematum regium* is nonsense. *Diadema regium* is *Royal Diadem*.—H. C. K.,
—Rector, Hereford.

[We have two other communications on the same subject, and as they ask for our opinion, we at once reply that we consider *Brillant de Vaise* the correct mode of spelling; and that that which is correct should be adopted. We cannot agree with the desirability of the practice of mingling either English and Latin, or English and French, merely for sound's sake. Let the name be all Latin, or all French, or all English. In the instance which has led to these remarks we see no objection to an entire translation of the name, for "The Brilliant of Vaise" we think preferable to any that has been suggested. Indeed, we are of opinion that in English gardens English names should be adopted wherever practicable. *Memento of Malmaison* we think far preferable to *Souvenir de la Malmaison*; and *Sun of Gold* much better than *Soleil d'Or*. It is mere affectation to call a flower *Duc d'Orange* when *Duke of Orange* is so much better; and why should such a milk-and-water name as *Tite Live* be adopted when *Titus Livius* is so much more noble in sound? We wish our florists would show they have more good taste and more common sense than to adopt any longer such a spurious nomenclature for their flowers.]

TAKING HONEY.

This season seems to be a good one for honey, but is drawing to a close. Except in heath districts bees cannot be expected to gather much more store; the nights begin to be long and cold, so that they will eat as much as they collect. All the spare honey should be taken away, in order that the bees may have time to make good any little damage; no spare room should be left, though it may contain empty combs; the entrances must be reduced, and the hives put a little in winter order. These remarks apply, also, to common hives; but, as the old plan is well known to cottagers and in no favour with amateurs, I shall pass it over slightly, only noticing that the old rule is to *doom* the heaviest and lightest hives, which are, in general, first swarms and after-flights, leaving the seconds for stocks. It is safer, however, to keep the first ones that have not swarmed which contain old queens. Not that we put much faith in the strong belief of old bee-keepers, that aged queens are more fertile than young ones, but that first swarms are always stronger, and have had more time to establish themselves. There are various opinions respecting the weight of a hive calculated to stand the winter. Some profess to keep bees on almost nothing, but much depends on how they are affected with the weather. We have tried all ways, but found none to equal that of allowing the bees to have their own way in a hive containing about 15 lbs. to 17 lbs. of honey, exclusive of the hive and board, allowing a little for pollen, more or less, according to the age and strength of the colony. All below that weight should be made up by feeding, which will be explained more fully in our next article.

In taking honey-combs great care should be observed not to mix them with pollen-cells, for that substance is sure to give honey a bad flavour. Cottagers are not very careful in this respect, by which much good honey is spoiled. They follow the old plan of squeezing the combs, good and bad, quickly through a sieve, instead of having them in a warm place, and allowing the honey time to drop through a muslin bag. By this method we have obtained pure limpid honey from very black combs, having previously cut or opened the mouths of the cells with a long knife, to let the honey drip without squeezing the combs.—J. WIGHTON.

VEGETABLE CULTURE AND COOKERY.

CARDOON.

It is for the stalks of the inner leaves that the Cardoon is cultivated in this country; but in Portugal the florets are employed for coagulating milk. It is by many much esteemed as a salad, and it is also used as an ingredient in soups and stews in the same way as Celery.

In the third week of April make a trench a foot wide as for Celery, with a good dressing of rotten dung in the bottom of the trench. Along the centre of the trench draw a narrow drill, in which drop the seeds at a distance of two inches from each other. When the plants are three inches high thin them out to six inches apart, and when they have made a stronger growth they may again be thinned to eighteen inches distance from each other. In September, when they are three feet high, or have almost attained their final growth, and when the stalks and leaves are perfectly dry, choose a fine day on which to prepare for blanching. This is to be done, first, by removing all damaged leaves, and then gathering together those that remain, and binding them closely round with twisted hay-bands, beginning at the roots, and proceeding two-thirds of their length towards the top, so as no earth comes in contact with the stalks; then earth them up in the same way as Celery, but not higher than the hay-bands. In about three weeks they will be sufficiently blanched and ready for use, when they may be taken up as required.

Besides using Cardoons simply as a salad, the following modes of cooking may be acceptable to many:—

To DRESS CARDOONS.—Take the lower ends of the stalks, such as are firm and solid, cut them in pieces six inches long, tie them in bundles, and boil till tender. Have ready a piece of butter in a pan, in which flour and fry them; they may then be served plain or like Asparagus, on a toast, with white sauce over them.

To STEW CARDOONS.—Take solid and well-blanchd stalks, and cut them into lengths of three inches, boil them for half an hour, then put them in lukewarm water to cleanse them from their slime. Afterwards dress them in some stock, with a spoonful of flour, some salt, onions, a bunch of sweet herbs, a little verjuice or vinegar, and a little butter. When done put them into a cullis with some stock, cook them for an hour in this sauce, and then serve.

CARDOONS WITH CHEESE.—String the stalks, and cut them in pieces an inch long, put them into a saucepan with red wine, seasoned with pepper and salt, and stew them till they are tender; put in a piece of butter rolled in flour, and when of a proper thickness put them into a dish, squeeze the juice of an orange into the sauce, and scrape over them some Parmesan or Cheshire cheese, and then brown them with a cheese-iron, but not of too high a colour.—ROGER ASHPOLE.

QUERIES AND ANSWERS.

GARDENING.

MEASURING LAND.

"Are farms sold or let (supposing there to be acclivities) by the *surface* measurement or by the *base* measurement per acre?"

"The above may be, to you, a simple question, but the answer will settle a controversy.—IGNORAMUS."

[The measurement is by the base. In extreme cases, as in that of a lofty hill, a surveyor makes some addition for the increased surface. It is equitable for him to do so; for, although no more corn or other perpendicularly growing plants can be grown on a mountain than could be on the area of its base, yet much more herbage, such as Grass, Turnips, &c., could be grown upon the sides.]

SOWING SEA-KALE.—WINTERING VERBENAS, &c.

"A YOUNG LADY has some Sea-kale seed, and desires to know whether it should be sown at once, and what will be the best form of beds to grow it in.

2. She has a number of cuttings of Fuchsias, Verbenas, Geraniums, Heliotropes, and Petunias struck in the open ground, which she intends (as advised by Mr. Beaton in a recent number of THE COTTAGE GARDENER) to put into pots at the end of this month (September) or the beginning of next; but as she has neither greenhouse nor pit to put them in, but only a cold frame, she would be glad to know what it will be necessary to do to the said frame to keep her treasures from the frost."

[Your inquiry about neglected espaliers is answered by Mr. Robson on another page. When half-hardy plants are to be kept through the winter in a cold frame without the use of fire-heat, the first point to be attended to is to place the frame where it will have all the sunshine it can. A dry situation is also indispensable, and the frame and glass being made as tight as can be, we would advise the inside of it to have a coat of lime-wash as one great antagonist to moss and mildew; the bottom or floor of the frame had better also be hollow, *i. e.*, the plants had better stand on lattice-work of some kind, which can easily be taken out to clean out any leaves or other matter calculated to encourage decay. This being done, or rather, before this is done, let the plants be prepared (by potting them early in autumn) to have their pots full of roots; and to have so matured their growth as to present that stiff-set-like appearance which indicates hardihood, and do not be in too great haste in placing them in their winter quarters, and when they are there be sure and give them plenty of air, and even full exposure on all suitable occasions, being, however, careful to shut them up against rain; tilting the lights at back, perhaps front too, to give them sufficient air, and when they want water, it is better to take them all out some dry day and water them outside, and replace them again, scattering some hot coal-ashes or lime underneath them to arrest decay; but allow the plants time to drain off the overplus water given them before they are put back, and, at

the same time, pick off any decayed leaves or any dirt that may adhere to the pot, and the frame being secured against frost, there is every reason to expect most of the plants will live through the winter; at least, by following this plan, the writer has often saved many; but there are some which ought to be kept in a drier medium. Scarlet and Variegated Geraniums, and Heliotropes, and even Verbenas, are worthy a place in some spare room, where they may have a little light, a drier air, and just sufficient warmth to keep away frost, say 40°. On the other hand, Fuchsia, Calceolaria, and Gaillardia, and some other things, take no harm from being immured some time, and some good results from allowing a sharp frosty air of the afternoon preceding hard weather to have access to the frame for some time, so as to dry up any moisture that may be lurking amongst the leaves. I do not mean they should be hard frozen, but just well dried, and if some of them are flagging from the apparent want of water so much the better; they will all endure their long, dark confinement so much the better, and when the time arrives for opening them out, be not too hasty in subjecting them to cold currents of external air, but by degrees inure them to it, so as to undergo a like treatment again if required.

The seed of *Sea-kale*, being larger than Marrowfat Peas, does not readily take harm in the ground. Nevertheless, there is no advantage in sowing it before February or March, and the mode of doing so must be regulated by ulterior considerations, whether the plants are intended to remain where sown, or taken up to force when large enough. Supposing the latter to be the case, let the ground be well trenched in autumn, adding some good manure as well, and at the time when Onions are sown, the seed may be put in somewhat closer than French Beans are planted, *i. e.*, in drills about two feet and a half apart, and the seed about an inch or so from each other in the row, taking care to cover very lightly, and to thin the plants in early summer so as to be six or eight inches apart. By this means, and the plant being good, roots as large as the best Carrots may be had in one season, with crowns calculated to make excellent shoots when put into a forcing place, taking care, as before directed, that the root is not injured in taking up.

If, however, a plantation be wanted which is to be forced by dung or other fermenting heat without taking up, let the same care be taken in trenching, &c., and let the seed be sown in circles of six inches in diameter or so, such circles to be about three feet apart, and when the seed is up the plants may be thinned out to three at each circle; but little farther care is wanted, as the robust character of the plant will do all the rest, provided the ground has been made good to start it with.

Another mode, tending to the same purpose as the last, is to sow the seed on the bed prepared for it on some nice border, and when the plants are about the size that Lettuce plants are when planted out, let them be planted where wanted, taking care to do this in moist weather, and they will not feel their removal. The only requisite is to take care the roots are not injured, as they are very brittle; but a little shortening at the point may be beneficial rather than otherwise, and there is the advantage of having the ground occupied with something else, perhaps, in the spring months; or, where it is wet and difficult to cultivate, this plan may be advantageously adopted both with this plant and also Asparagus.]

PROPAGATING THE VARIEGATED HYDRANGEA.

"Having, last spring, bought a small plant of this new variety, it has fully carried out its character in its beautiful foliage, and by proper compost has grown a fine plant, and has thrown some fine shoots nearly as low to the main roots as suckers.

"Wishing to propagate this attractive variety, which is the best and surest way to accomplish the propagation? The young shoots are getting firm.

"Will the Hydrangea foliage bear exposure to the sun and air as well as other variegated plants in summer?—M. F."

[Small side-shoots a few inches in length strike very freely in a little heat. When the shoots, as you say, are

firm, every two joints will make an excellent cutting, which will strike with the heat of a common greenhouse. In fact, if you have two buds at each joint, you may split the joint in two, and make two cuttings of it, and they will grow nicely with the usual encouragement from heat and shade. If you can give shade and know how to manage it, you may let the leaves remain; but if you succeed, do not flatter yourself and astonish your friends that you have raised so many plants from leaves, for you have merely got plants from buds.

The Variegated Hydrangea stands exposure very well, but the colour is not so bright as when enjoying a little shade.]

CAPE JASMINE CULTURE.

"What soil suits the Cape Jasmine best?

"Is the warmth of the greenhouse sufficient to bloom it?

"After blooming should it be put out of doors?

"Is it easily affected by frost?

"Should it be kept dry in winter?

"How is it propagated?

"I have never succeeded in keeping one for any length of time, and as it is a great favourite I am very anxious to do so.—A CONSTANT READER."

[1. *Soil*.—Peat and loam well drained.

2. It will bloom in the greenhouse in summer.

3. It should stand out of doors only a short time in summer.

4. It is easily injured by the slightest frost.

5. It should be kept rather dry in winter and cool, say average 45°.

6. It is propagated easily by cuttings of young shoots getting hard at their base, and placed under a bell-glass in a sweet hotbed.

We presume you mean the *Gardenia radicans*. The following is the outline of culture to have and continue it in excellent order:—Supposing that now it is healthy and the buds prominent, keep it in a pit or greenhouse at the above temperature, from 40° to 45°, and dryish, but so as there is no flagging. If in March or April you have a sweet hotbed, place it there until the buds begin to open. If no hotbed, keep the plants warmer and moister until they bloom. Then place in greenhouse or window, where there is no great draught of air. When done flowering, and old flowers, &c., pruned and rested for a week or two, place the plant in a pit or house, where it can be kept moist and warm to encourage growth. Give more air in autumn, and all the light possible, and by October house again.]

BEECH LEAVES FOR VINERY HEATING.— GRAFTING AND INARCHING VINES.

"Will you be kind enough to inform me whether Beech leaves in a Vinery would be an injury to the Vines? I want to fill the pits with leaves, and Beech leaves are the easiest for me to get. I am informed they are injurious to some things. Should they be put in the pits when they are gathered, or should they lie together in a heap any time first? In one of the houses I have one *Barbarossa* and one *West's St. Peter's* Vine, but they do not seem to bear on the spur plan. Would they be likely to do better on the rod system? They have been planted two years last March, then being one year from the eye. There are two more in the same house, one *Purple Constantia*, and one of which I do not know the name. It has a large bunch, but a small Grape. I should like to graft or inarch them. Which would be the best plan, and the proper time for doing it? I have some *Strawberry-plants* in pots that were forced last spring; will they do any good if forced again?—A CONSTANT READER."

[As soon as the fruit and leaves are removed from the Vine you may place the Beech leaves in the pits, either at once, or after they have fermented a little. It matters not; the gas given off when fermenting will do no harm. If there is much grass or moss with the leaves, it would be as well to ferment them first, to let any rank steams off, if there were any tender plants in the house at the time.

See what was said lately by Mr. Fish on tendrilled bunches. Beech leaves are next to Oak for lasting properties. If your roots are deep you will succeed best with the rod system. If the roots are near the surface the spur system is most convenient. There are two best times for grafting Vines; first, before the sap begins to move; the second is to keep the scion cool, to force the Vine, and when the Vine is in full leaf to cut back the shoot, and graft it with the scion unstarted. We have succeeded equally well with both; the first is the simplest. Inarching generally takes place from June and onwards, according to the time the Vines were planted, and consists in placing a growing shoot from a pot, &c., against a growing shoot of the older Vine, removing a slice from each, tying them together, and, when united, cutting off the pot, and removing the upper part of the old Vine. The *Strawberries* will do, but should be shaken out of the pots and repotted. See previous articles.]

TO CORRESPONDENTS.

BRICKS WITH SALINE EFFLORESCENCE (C. E. Lucas).—Tar them; and, when the tar is dry, paint them stone colour.

LIST OF PELARGONIUMS (E. H. S.).—In Nos. 397 and 398 you will find descriptive lists of Pelargoniums and Fancy Pelargoniums, both new and old.

LIST OF FRUITS (J. Ciomikan).—The following will suit you:—*Strawberries*—Keane's Seedling, *Carolina superba*, and Elton. *Gooseberries* we gave a list of recently, and to them you may add *White Eagle*. Of *Currants* the *Black Naples*, *Red Dutch*, *Knight's Large Red*, *Knight's Sweet Red*, and *White Dutch* are the best. We cannot recommend nursermen.

WOODLICE (A Constant Subscriber).—No remedy against these insects is known. Modes of trapping them have been mentioned repeatedly; a sliced boiled potato is a good bait for them.

EMIGRATION TO CANADA (J. C.).—Send us your direction on a stamped envelope.

NAME OF PLANT (R. H.).—The Bog Asphodel, by some called the Lancashire Bog Asphodel (*Narthecium ossifragum*). It is a curious and pretty Liliaceous British plant, and by no means common.

WINTERING PLANTS (A Beginner).—You have not told us your resources. All may be kept if secured from frost, and obtaining plenty of light and air, and will bloom much earlier than those sown or raised in spring. They must neither be wet nor dry in winter.

MILLHILL BLACK HAMBURGH GRAPE.—*ROSA SULPHUREA* (H. Mantou).—The Millhill Grape was raised at that place. Mr. Fleming gives his opinion of it as follows:—"Many persons being doubtful as to the existence of any real difference between the Millhill Hamburg and the common one, and others confounding the Millhill with the old Dutch Hamburg, I send some of each, in order that the question may be decided. The Millhill is later in ripening than the common Hamburg, and its skin being tougher, renders it a good keeping Grape. The Vine makes strong roots, and unless means are taken to keep them out of the subsoil, they will soon be revelling in it, and the wood will not ripen well. Our border is shallow and concreted below, and the wood ripens perfectly. This grape is, in my opinion, the best of the late black kinds, and seems to be a cross between the Black Damascus and the Hamburg, but partaking more of the latter. The Grape which I call the old Dutch Hamburg is large in the berry, of excellent flavour, and very juicy. It does not always become black, but with us is oftener of a flame or red colour, in which state it is much admired. The fewer the number of bunches left upon the Vine the nearer to black do the berries approach, although I have never seen them perfectly black. There seems to be much confusion of names among Grapes. We have here no fewer than four kinds of Hamburgs, all of which I have tried in one house, and, for early forcing, none excels the variety called the 'Pope,' a Grape for many years grown most successfully at Swinnerton Hall, in this county (Staffordshire)." *Rosa sulphurea* is a good double yellow Rose, and ought to be obtainable on its own roots from any of our large Rose growers.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

COLLINGHAM, NEAR NEWARK. Oct. 21st. Hon. Sec., E. Turton, Esq., South Collingham. Entries close Oct. 14th.
ESSEX. At Colchester, 8th, 9th, and 10th of January, 1857. Secs., G. E. Attwood, and W. A. Warwick.
GLOUCESTERSHIRE. Nov. 26th and 27th. Sec., E. Trinder, Esq., Cirencester. Entries close Nov. 1st.
LEOMINSTER. Thursday, October 16.
NOTTINGHAMSHIRE. At Southwell, December 17th and 18th, 1856. Sec., Richard Hawksley, jun. Entries close November 19th.
NOTTINGHAM CENTRAL POULTRY ASSOCIATION. January 13, 14, and 15. Hon. Sec. Frank Bottom. Secretary to the Canary Department, Jno. Hetherington, jun., Sneinton.
 N.B.—Secretaries will oblige us by sending early copies of their lists.

DORCHESTER POULTRY SHOW.

THE Fifth Annual Exhibition took place on the 17th and 18th of September, and produced birds of unusual excellence in almost every class. We know no Show so well supported by the nobility and gentry of a county as this is; and

their interest in it is not confined to the gift of pieces of plate, but they also attend it in person.

The most attractive pen was, perhaps, that which struck the visitor on entering. It consisted of two long shelves covered with blue cloth, and the whole interior was lined with the same material.

The Centre-piece was one of the handsomest prizes we have yet seen, inferior only to the fifteen-guinea Cup at Anerley, in 1855, and the twenty-guinea Cup at Colchester, last year. It was given by Gerard Sturt, Esq., M.P., and was a chased Cup with handles. It was gained by Lady Margaret Macdonald, with one of the best pens of *Dorking* chickens we have seen this year. The competition for this was open to all England.

The unusual value and merit of this prize have tempted us to deviate from the order in which these glittering rewards were given, but we will now take them in order. The prize for *Bantams* was gained by Mr. Goodenough, of Godmanstone, with unusually good birds. All the *Gold-laced Bantams* were excellent, but we cannot say as much for the *Silver*. There were also good *White*, *Black*, and *Game*. A Soup-ladle was next gained by Mrs. H. Fookes, of Whitchurch, for the best *Dorking* cock shown in the class for single birds. Sir E. Baker's prize for two pens of *Ducks*, *Aylesbury* and *Rouen*, was awarded, in the shape of a Silver Mustard-pot, to Mr. Fowler, of Aylesbury. The *Ducks* shown in this competition were excellent. A very handsome Butter-dish (value £5), given by Lord Rivers, for the best pen of *Game Fowls*, went to Mr. Crane, of Tolpuddle. Mr. Ker Seymour, M.P., gave an Egg-stand for the best *Spangled Hamburgs*. This was gained by Mr. Botham, of Wexham Court. The same gentleman gained Mr. Sheridan's prize for the best pen of *Spanish*,—it was a very handsome Liqueur-stand. Mr. Goodenough gained the prize for the best *Cochin* cock, a pair of Plated Dishes, given by the Mayor of Dorchester. The best pen of *Cochin Fowls* exhibited in any class was shown by Mrs. H. Fookes, and gained her a Cruet-stand, given by G. W. Digby, Esq. Mr. Brook gained Mr. Porcher's prize for the best pen of *Pencilled Hamburgs*. Mrs. Sheppard, of Tulse Hill, became the possessor of a Fish Knife and Fork, given by Hastings Middleton, Esq., for the best pen of *Brahma Pootras*. A beautiful pair of Salt-cellar, given by Herbert Williams, Esq., were awarded to Mr. Rogers, for the best *Malays*; and the Committee Plate, for the best *Polands*, a very chaste and pretty Centre-piece for Flowers, was gained by Mrs. C. Coleridge, of Eton.

This catalogue will, we think, justify us in saying the pen that contained them was the most attractive of all in the Exhibition.

The *Spanish* shown were many of them excellent birds, especially Mr. Botham's hens and Mr. Rodbard's chickens. Mr. Locke's birds were good, but so diseased that it was necessary to remove them.

We need not say Mr. Loder's were good *Dorkings*—they always are; and when such birds as Mr. Botham's can only reach a high commendation, the winners may be proud and the losers consoled. Mr. Fox's birds, that took second prize, were very good.

The improvement we have had to notice so often in the *White Dorkings* was well maintained. These birds are fast gaining size, which was their chief desideratum.

The old *Cochins* were good birds, but they were very ragged. The chickeus made amends, and the first prize in both classes was taken by Mrs. Fookes: the offspring justified the awards to the parents. There is a manifest improvement in this class. When we say the first prizes in the *Partridge* classes were awarded to Mr. G. C. Adkiss and the Rev. G. F. Hodson we shall convince all that good birds competed. We must, however, impress on exhibitors in this class, that although it is difficult of attainment, yet it is necessary the cocks should have black breasts. The *White Cochins* were hardly so good as we have been in the habit of seeing lately. *Brahma Pootras* were well represented in numbers and quality. In this class, as in others, we must refer exhibitors to the prize-list for the names of the successful. We will only add, the winning birds were all beautiful specimens. There is always a better show of *Malays* at Dorchester than elsewhere, and it was the case now. The adult *Game* were in bad feather, but Messrs. Crane and

Rodbard deserve mention for their successful pens. We were sorry to see many hen-feathered cocks among the *Golden-spangled Hamburgs*. The *Silvers* were free from this charge. The *Golden-pencilled* chickens were perfectly beautiful; they left nothing to desire. The *Silvers* were also excellent. There will be no doubt of this fact when we say that the Rev. T. L. Fellowes and Mr. E. Archer took the prizes. Mrs. Mills, of Bisterne, also took two. There was much competition in *Polands*, from the quality of the birds exhibited; and the prizes were scattered abroad, going to Hampshire, Berkshire, Warwickshire, Somersetshire, and Dorsetshire. Mr. G. C. Adkins took two first prizes, and we have before stated that Mrs. Coleridge took the Cnp. We feel it our duty to warn exhibitors in the class for Black with white top-knots that they must be more particular in selecting birds with straight backs. Many of those shown were crooked, and some had red feathers. Disqualification must be the result of such faults. The *Geese* were so good that almost every pen was commended. In these, as in *Aylesbury Ducks*, Mr. J. K. Fowler was victorious. The *Rouen Ducks* were excellent. Lady Margaret Macdonald took the first prize for *Turkeys*, closely run by Mrs. H. Fookes.

The Show was held in the same locality as in former years. It is light, airy, and lofty. The management was, as usual, in the hands of Mr. G. F. Andrews. The great experience and matured judgment of this gentleman were visible in all the arrangements. His exertions and urbanity entitle him to the thanks of all interested in the pursuit. The Rev. D. C. Sanders and Mr. H. Fookes, who give him the assistance he requires in all circumstances connected with it, also deserve grateful mention.

The Judges were Rev. R. Pulleine, Kirkby Wiske, Thirsk; H. Hinxman, Esq., Durnford, Salisbury; and Mr. Baily, London.

THE HACKLE OF SILVER HAMBURGHES.

In No. 415 of THE COTTAGE GARDENER, page 428, it is stated, "White hackles in hens (Hamburgs) are as bad as red ears; they should be well striped." Now, this is in direct opposition to what Mr. Baily says in his work on fowls, where (page 27) it is stated that Gold and Silver Hamburgs should have clear hackles, either white or yellow (the white referring to the Silver, and yellow to the Golden). And, again, at page 29, "No true Hamburg has a spotted hackle." Will you kindly let me know which view of the case is right, as the statement in THE COTTAGE GARDENER may lead to much confusion if incorrect, which I am strongly inclined to think is the case.—W. M.

[You have confounded *Spangled* and *Pencilled* Hamburgs as mentioned in Mr. Baily's book. Clear hackles are imperative in *Pencilled*; they are fatal in *Spangled*. The difference will be seen on referring to "Exhibition Fowls," pages 76 and 79 in the last edition of his work.]

MARKING FOWLS.

MANY are the modes of setting some kind of indelible stamp on birds as a distinguisher from their fellows, and many have been the modes resorted to, as set forth in this periodical, for the better or best performance of this desideratum. If marks be too conspicuous, inference might be drawn that some beacon was established for the guidance of judges or interested persons; therefore it behoves the marker to be as private and secret in its locality as possible. On referring to some back numbers of one of your contemporaries, I find punching the web of the foot advised, passing a hot needle through the wing, &c. I have no means of knowing much about this mode of marking. Betty, our old weeding-woman, highly learned in this contemptible occupation, as also in times *lang syne* a rare tender of pigs and poultry, oftentimes has pierced the web of a favourite duck's foot, as a preventive against witchcraft and the *cook*. I never knew her meddle much with fowls, they being rather too migratory for her stay-at-home notions. John Jones, the keeper, a sad fellow, breeding ginger-blue Game fowls and fighting-mains by the sly, used to have two modes of marking his *stunners*, as he termed the best

fighters. One was (and the commonest) to catch up a small portion of the under eyelid, and with a pair of scissors snip out a bit, leaving a triangular notch. The other plan was to arm a slender stocking-needle with a piece of red or black silk (or, indeed, any other colour), pass it very superficially under the skin beneath the wing or thigh, say for an inch in length, and cut off the thread, leaving a small projecting portion on either side. This was Master Jones's plan, and many follow it now, and so may you, gentle reader.—W. H., *Exeter*.

MR. BOTHAM'S BRAHMA POOTRAS AT ANERLEY.

I CONFESS myself much surprised at a letter that appears in THE COTTAGE GARDENER of the 16th instant, from Mr. G. Botham, of Wexham Court, in which that gentleman alludes to some brown feathers being "found in the pen" allotted to his Brahma chickens at Anerley, and that "some of the committee have them in their possession," adding, also, most emphatically, the statement that his said chickens "had not any feathers of that colour when they left his premises for Anerley; they had not any when the first prize was awarded them at Clifton, nor have they now." I very deeply regret, from its uncalculated-for publicity and extreme positiveness, I am thus compelled to correct so decidedly erroneous a statement. The disputed feathers, which are beyond gainsay brown ones, were *not* "found in the pen," but plucked out by myself, in the presence of four of the committee, from one single pullet. They are the newly-produced feathers after partial moulting, and were selected and plucked out from the back, wings, and breast of the fowl whilst I held her (purposely for so doing) in my hands. There still remained, likewise, a few such coloured feathers in her companions when I left Anerley, the last day the Exhibition was open to the public.

Being the Judge at both Anerley and Clifton, I most cordially agree with Mr. Botham that no such feathers were anywhere perceptible at the time they were shown at the latter place; but at Anerley, the fowls remaining without interference, bore them distinctively enough up to the close of the Show. As to Mr. Botham's remark that "they have not any such feathers now," having not myself seen them since at Anerley, I at once give perfect reliance that it is so.

Those feathers publicly extracted remain still with me, and have not at any time since then been out of my possession.—EDWARD HEWITT, *Eden Cottage, Sparkbrook, near Birmingham*.

PRICES OF POULTRY.

At the end of THE COTTAGE GARDENER for the 9th inst. the prices of poultry are stated thus:—

Large Fowls	4s. 0d. to 5s. 0d.	each
Small ditto	3s. 6d. to 4s. 0d.	"
Chickens	2s. 0d. to 2s. 9d.	"

Now, I know the meaning of *each*, but the price is so much beyond my notions on this subject, that I imagined it must mean *each pair*. Would you please to enlighten me as to this? At the same time an idea of the weight of the large and small fowls referred to will oblige—KILMARNOCK.

[The description of poultry quoted is the best and choicest, and our object in quoting that only is to induce a more extended supply of such. We are always ready to prove the correctness of our quotations. The quality of the goods is not understood except in three or four counties in England. They are not sold by weight. The requisites are—white legs, absolute youth, good fattening, and clean killing. Add to these they must be sent very fresh, and you have fowls that will always command a sale at remunerative prices. Any deviation will make much difference in the value.

The probable weight of large fowls will be from 6 lbs. to 7½ lbs. each, and the smaller from 2½ lbs. to 3½ lbs. each.]

FANCY PIGEONS.

HAVING now arrived at that part of the present series which will treat of all Fancy Pigeons, of which there are a great variety, it will be advisable to devote a few words to the intended arrangement or classification of these interesting birds. The first division or classification which presents itself is that of dividing them into two grand classes. First, all such as have any distinct property not possessed by the generality, and by which they may be at once distinguished in any of their varieties from any other breed. These properties mark the distinctness of the various breeds; adhere to them through all the varieties of the breed; are capable of being increased to a certain degree by careful and attentive breeding; and are also liable to an amount of degeneracy if the breed is not carefully watched. Yet these points, or properties, as they are called, or, in other words, the distinctive attributes of the certain breeds, are so permanent, that we never hear, or expect to hear, of two Pigeons of one breed producing young of another kind. Many of them, it is true, will, if two of different breeds are paired together, produce mongrels, which partake partly of both sorts, and are again fertile; but, on the other hand, some of the breeds, if crossed, produce mongrels which have not the power to reproduce *inter se*, and which, I consider, goes far to prove that the theory that all our Fancy Pigeons are of one stock is, in some measure, erroneous.

The constancy of the various sorts to breed true to the properties of their respective breeds, and the total absence of one case on record of a distinct kind having been produced from other kinds, will, I think, in some measure, upset that theory which looks on all the various forms as accidental variations produced by domestication. Surely, if such variations have taken place so often, it is not too much to expect an occasional instance even in our time.

I should rather incline to the opinion that our domestic Pigeons had several original parents, from the admixture of whose offspring numerous breeds had sprung. At least, I regard all such Pigeons as have distinctive marks, or properties, as entitled to rank as distinct breeds, and to bear the rank of Fancy Pigeons.

The second division would contain all such as depend principally on the colour or marking of their plumage for their worth, and which have no points or properties but which might be borrowed from other breeds. Such are undoubtedly the effects of domestication, or the produce of mixtures of certain other breeds. In the majority the type of the Dovehouse Pigeon is very prevalent, and such are appropriately designated Toys. The first division admits of being again subdivided into many classes, according to the most prominent feature or property; and though each class may contain several distinct breeds, as at present recognised, yet they bear such marks as to give an idea of their being descendants of one original breed. I do not set this theory forth as infallible, but simply as my view of the case, after many years carefully watching, and also gathering all the information I could obtain on the subject. It is on this plan of classification that I shall endeavour to arrange the following breeds; and, as an example will better show what I mean, I will, for the sake of explanation, digress a little on the first class, the Wattled or Watted Pigeons. This class contains:—1. The Persian or Turkish Carrier. 2. The Bagdad Pigeons, or Scandarroons. 3. The Barbs. 4. The English Carriers, the Horseman and Dragoon; and also some other continental varieties. All these have wattles on the beaks, and ceres round the eyes, yet are sufficiently different to be considered as distinct breeds, though belonging to one class. More than this, there is a great probability of their being of one breed originally, for all fanciers know that, having a certain property, it can in time, by careful breeding, be increased or diminished. The beak may be got longer or shorter, or the form of the body altered; but they cannot make any property, any more than they can a beak or a leg; but, having got the wattle, beak, or leg, they can work upon it, and alter its form or size.

The various classes I shall endeavour to trace to their origin where I have any clue to follow; and I shall, in my next, endeavour to show the origin and relationship of the Wattled Pigeons.—B. P. BRENT.

OUR LETTER BOX.

PARALYSED WING.—"I have a young Golden-pencilled Hamburgh Cock which drags one wing. Nothing to be felt or seen. It was seen first of a morning. No other cock near. I have fomented it, but no good. It flies tolerably. I think this class is subject to this relaxation of the first and second wing joint. It looks very bad hitching in the bird's legs, and he is a good one. I never saw it before so bad. Is it common, and what is the remedy?—W. H."

[We have never seen such a case as that mentioned by you in a Hamburgh cock. We should advise you to tie the wing in its proper position, which may be done by the feathers, only avoiding any ligature round the flesh. As he flies well there can be no fracture of the bone.]

APOPLEXY IN POLISH FOWL (C. P.).—"I have a Polish cockerel, which was taken very suddenly a few days since apparently in a fit; it fell to the ground senseless; it was bled in the head, and had a dose of castor oil given to it; it is very much better, but he is still very moping, with a weakness in the legs, and, at times, a contraction of the toes; he eats little, or, indeed, nothing but a small quantity of soaked bread in water, or some meat, which I am afraid to give him, not knowing if it is good for him."

[Do not give the bird any meat, nor any hard corn. Boiled mashed Potatoes, with a little barley-meal and plenty of green food, will be the best food for him until he has quite recovered the use of his legs.]

LONDON MARKETS.—SEPTEMBER 29TH.

COVENT GARDEN.

Trade rather dull. Supply moderate. Among continental arrivals we have to report some Dutch Hamburgh Grapes of fair quality. The usual varieties of Pears from the Channel Islands and France have come to hand in considerable quantities during the past week, enabling us to quote rather lower prices. Peaches and Nectarines plentiful; English Pines in rather better demand now the West India ones have disappeared.

POULTRY.

The only difference we have to note in our market report is, that young Grouse are scarcer than they were ever known to be.

Large Fowls 4s. 0d. to 4s. 6d. each.	Hares 2s. 6d. to 3s. 0d. each.
Smaller do 3s. 0d. to 3s. 6d. "	Ducks 3s. 0d. to 3s. 6d. "
Chickens .. 2s. 0d. to 2s. 6d. "	Geese 6s. 0d. to 6s. 6d. "
Grouse ... 4s. 0d. to 4s. 6d. "	Pigeons 5d. to 9d. "
Partridges.. 1s. 9d. to 2s. 0d. "	Rabbits 1s. 4d. to 1s. 5d. "
Leverets 3s. 6d. to 4s. "	Wild ditto 10d. to 1s. "

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